THE RUBBER AGE

ESTABLISHED 1917

COVERS ALL PHASES OF THE PRODUCTION AND MARKETING OF CRUDE RUBBER AND THE MANUFACTURE AND DISTRIBUTION OF RUBBER GOODS

Vol. 37 JULY, 1935 No. 4

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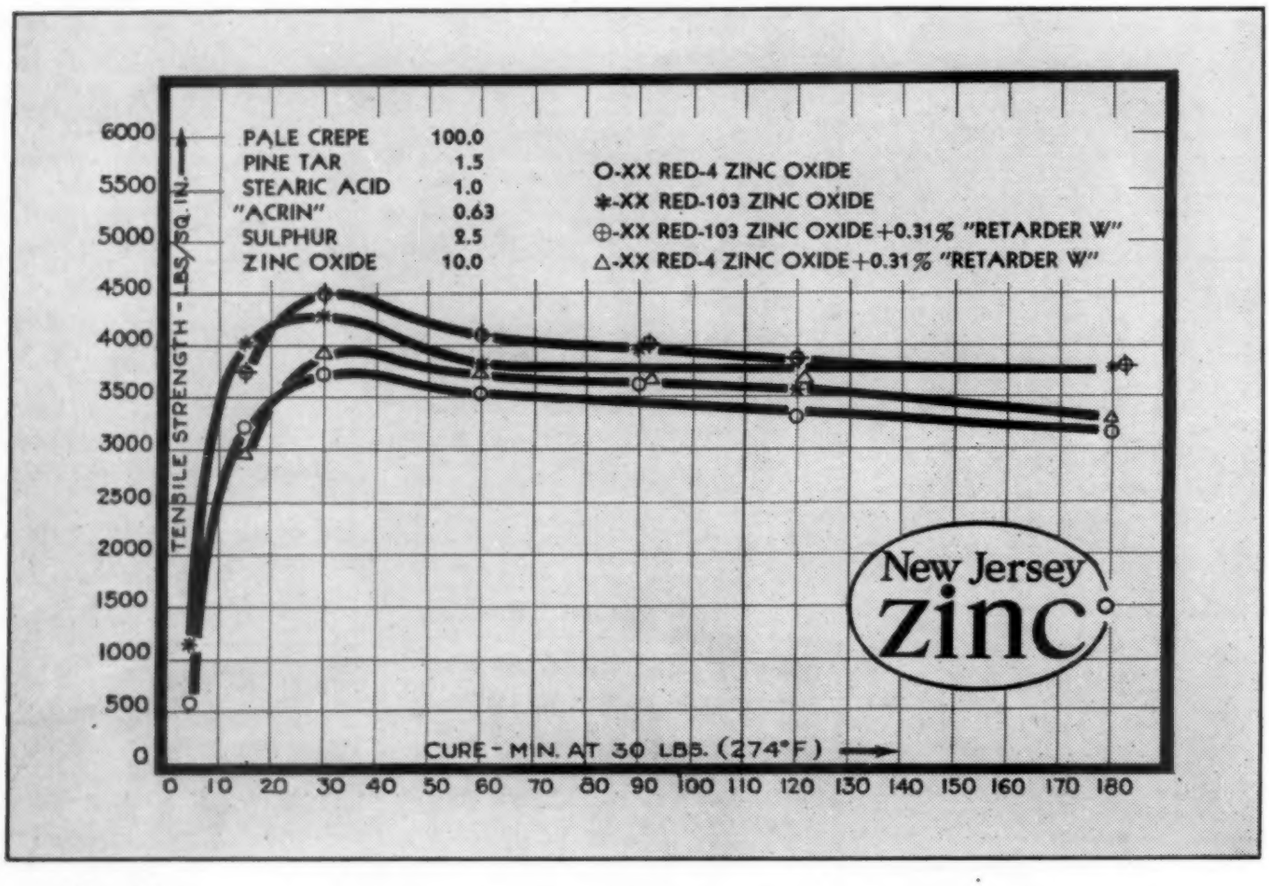

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Vol. 37 JULY, 1935 No. 4

One Year of Restriction

Although Total World Stocks Have Not Yet Been Substantially Reduced, and Crude Prices are Lower, Regulation Is Working

THE primary purpose of the rubber restriction scheme which went into effect on June 1, 1934, and which involves nine countries, i.e. Malaya, the Netherlands, East Indies, India, Ceylon, Burma, French Indo-China, North Borneo, Sarawak and Siam, is to regulate production to a point where a steady price level will result, one sufficient to make the production of rubber a profitable enterprise. After one full year of restriction opponents to the scheme are vociferous in their allegations that the plan being executed by the International Rubber Regulation Committee has failed, so far, in its purpose. Supporters of the scheme point out that much progress has been made and claim that the full effects of restriction will be noted within eighteen months. It is undeniable that the Regulation Committee is not hurrying pell-mell towards its objectives of a normal stock total and a higher price. After one year of restriction it is apparent that the committee is seeking to achieve not only current stability in the industry, but also to safeguard the future. Also apparent is the fact that the committee members well remember the disastrous results of the ill-fated Stevenson plan, and are proceeding accordingly. They are fully aware of the fact that violent action to force rubber prices up to an approximate 20c level would probably alienate whatever sympathy consumers may have for producing interests.

United Kingdom Stocks Increased

The end of the first restriction year has few points in its favor. The price of rubber is about one cent lower than it was in June of last year. Although stocks in the United States have decreased by 16,119 tons in the last twelve months, according to Commodity Exchange figures, this was due to increased consumption in the first few months of the current year rather than to restriction manipulation. Malayan stocks, too, have decreased approximately 10,000 tons. But stocks in the United Kingdom (London and Liverpool) have increased by 68,837 tons, or almost double the stocks on hand in June of 1934. These are but a few of several factors on the debit side of the restriction scheme. There are many others.

All Obstacles Have Been Overcome

On the other hand, the Regulation Committee, to date, has succeeded in overcoming every obstacle that arose during the year that intimated interference with the operation of restriction. These obstacles have not been many in number, but were of an important nature. The first of these was the unexpected opposition of Siam, one of the nine signatories to the agreement, to its alloted quota of 15,000 tons. So keen was the country's dissatisfaction with that allotment that the governmental administration which had approved the quota figure was forced to resign. Unlike other signatory countries, whose quotas will rise annually, Siam's 15,000 ton quota was to remain at that figure for each of the five years of the restriction scheme.

However, under the terms of the restriction agreement, special treatment was given to Siam's objection, originally made in September, 1934, and a new basic rubber output quota of 40,000 tons was granted, effective July 1, 1935, which has already been approved by the Siamese Legislative Assembly. Furthermore, it has also been agreed that the exportable percentage of the basic quota should be not less than 50% for 1934, 75% for 1935, 85% for 1936, 90% for 1937, and 100% for 1938.

At the time of Siam's protest the Regulation Committee offered to increase the basic quota from 15,000 to 25,000 tons. Siam, however, drove a hard bargain and secured its requested 40,000 tons quota. It was in a position to drive that bargain not due to the fact that the country accounts for only 1% of the world rubber production, but because danger of the exclusion of the country from the rubber cartel would open the door for the smuggling of rubber from other non-signatory countries through Siamese ports. Siam's planted rubber area is about 150,000 acres, largely in small native holdings, of which one-third has yet to come into bearing.

Control of Dutch Native Planters

It was evident from the very start of the current restriction scheme that its success depended on large part on the ability of the Netherlands East Indies government to control native production of rubber. So vital a point was this control angle, that the Regulation Committee treats with rubber production in the N.E.I. from two separate viewpoints, viz: estate and native production. In the first four months of the scheme, June-September, 1934, these fears seemed well founded in the fact that in each month exports of native rubber exceeded the alloted export totals by several thousand tons.

In October and November, however, native exports dropped some 50% below the alloted quotas with the result that at the end of the first seven months of restriction native exports of rubber from the N.E.I. amounted to only an excess of 8,573 tons above the quota for that period, or in other words, the total of native and estate exports was within 1% of the permissible total for the seven-month period from June to December, 1934.

Unfortunately, the excellent showing of the control over native rubber exports in the first seven months of restriction by the Dutch authorities has not been maintained in the current year, and again the restriction scheme is endangered from this source. Despite the fact that rubber averaged approximately 12 cents a pound in the first five months of 1935 native shipments from the N.E.I. exceeded the quota of 52,115 tons by 20,271 tons, or almost 40%.

Unless native exports decrease considerably in the next month or two, if they haven't shown signs of decreasing in June and July (figures are not available at this writing for those months) there will be grounds for apprehension since the Dutch have maintained a 75% quota allowance for the first two quarters of 1935, and therefore must reduce its export quota to only 60% of the standard allowance, as of July 1, for the third quarter of the year. The export totals should have been lowered from 75% to 70% at the beginning of the second quarter (April, 1935) but the Dutch preferred to maintain the 75% figure for both quarters.

The Dutch have instituted two methods for controlling native rubber production, i.e. export taxes and individually restricted districts. When shipments in any month exceed the quota allotment to any large degree the practice has been to increase the export tax. Following this trend the export duty was raised from 8 to 9 guilder cents per half-kilogram as of June 1. On June 3 it was announced that an additional increase from 9 to 10 guilder cents per half-kilogram would be in force after June 16. This was later raised to 11 guilder cents. In the event this latest rate isn't successful in holding down native exports additional increases will be made in all probability.

The Dutch authorities are also hastening to an early conclusion their survey of native districts preparatory to the extension of individual restriction methods, which at present affect less than 30% of native grown rubber. The problem of separating areas with individual restriction, according to U. S. Trade Commissioner C. G. Isaacs, stationed at Batavia, is that it involves prevention of transportation of rubber from other native regions to those under such restriction. Areas so segregated are not regulated by export taxes, but are handled with methods thought best suitable to each area by local authorities responsible to government officials concerned with the success of the international restriction scheme.

One unusual effect caused by the instituting of individual restriction methods in certain Dutch native areas is that hundreds of trees that have not been tapped for many years have again been tapped. They are not tapped, primarily, for their rubber content, but rather to permit the owner of the tract to sell the license he receives from the district commissioner which allows him to prepare a predetermined amount of rubber for export purposes to interested buyers. In this manner small holders, who find little value in exploiting their trees, now derive some income from selling licenses.

Special Circular No. 3576, issued by the Leather and Rubber Division of the Department of Commerce, points out, however, that there is a strong current report that individual native rubber restriction has had very poor results to date. Banka, one of the native areas under such restriction, has exported almost no rubber at all in the first two months of the current year, and tapping is reported as being almost nil.

Despite all these handicaps Dutch authorities are tackling the problem with commendable vigor, and it is most reasonable to presume that with twelve months' experience behind them in treating with the native growers they know how far they can go with safety. Although native rubber production and export will undoubtedly continue to be a hazard to the ultimate success of the restriction scheme there is little actual danger that it will at any time achieve sufficient importance to disrupt the plan's operation.

To all intent and purpose the restriction scheme seems to be working admirably in British Malaya, although there is some difficulty in British North Borneo due to the fact that local authorities are believed to have under-estimated the rubber acreage for that state. Restriction in Malaya is under the supervision of a Rubber Controller who works closely with the Departments of Trade and Customs. Stocks on hand have depreciated by some 10,000 tons since the inception of restriction. Production has been gradually reduced in keeping with the spirit of the restriction scheme. During the first five months of 1934 (pre-restriction) Malayan shipments were 44% above the same period of 1933. In the last seven months of 1934, the first seven months of restriction, shipments were only 3½% above the similar 1933 period.

Doubt Wisdom of Coupon Plan

Administration of the regulation scheme in Malaya is divided into two main categories, i.e., plantations over and under 100 acres in size. Those over 100 acres are termed "estates." Those under 100 acres are known as "small holdings." Coupons representing the amount of rubber export permitted each "small holding" is given at the beginning of each quarter to the "small holders." Although the handling of restriction in Malaya is considered satisfactory by most parties there is a difference of opinion with respect to the wisdom of the coupon plan, since it has led to the sale and transfer of the export rights of "small holders" to other rubber planters in the Malayan territory.

During the first seven months of restriction domestic exports of rubber from Malaya amounted to 243,871 long tons. Since the country was permitted to export 256,200 tons under its quota in that period the amount exported was therefore 12,299 tons less than the permitted amount. This sum was "carried over" to the current year and will be absorbed sometime in 1935.

A group of young rubber trees on a typical plantation in the Far East.

For the first five months of the current year net Malayan shipments have amounted to 173,224 tons as against 195,490 tons during the first five months of 1934, a decrease of 22,266 tons. Stocks on hand at the close of April were reported at 86,723 tons, as compared with 97,146 tons on hand at the end of April, 1934. British Malaya is considered the shining example of the restriction scheme, at present.

Coupon Speculation in Ceylon

Ceylon, too, handles its restriction of rubber through the medium of coupons, but differs in its method from Malaya and the N.E.I. by granting the coupons to both European and native rubber estates, which are treated with equal respect and granted the same district averages. Although restriction is reported to have thus far worked successfully (report by E. G. Holt in his regular Rubber News Letter issued in his capacity as assistant chief of the Leather and Rubber Division of the Department of Commerce) the one main disturbing angle is the fact that since coupons are transferable there has arisen a steady traffic or speculation in their use.

Small native holders in Ceylon, especially, have been selling their export coupons and producing uncouponed rubber. In recent months these native holders have even stopped producing uncouponed rubber, being satisfied to deal in their coupons alone. This has resulted in widespread unemployment and dislocation of labor in certain native districts. There is now a move under way to have the government prohibit trading in rubber export coupons to remedy this situation. The coupons are issued quarterly in conformity with the quota allotments for the respective quarters, which has been fixed at 70% for the second quarter, and 65% for the third and fourth quarters.

In the first seven months of restriction Ceylon's rubber exports were almost exactly equal to the permissible quota total of 39,396 tons. In the first five months of 1935 these shipments have amounted to 21,761 tons, a decrease of 16,274 tons from shipments in the similar 1934 period.

Although French Indo-China is one of the signatories to the restriction agreement the country has instituted no restrictive measures on the production of rubber other than applying the general measures of the plan with respect to new plantations and replanting old areas, both of which are under the control of the International Rubber Regulation Committee. There will be no restriction of production in the country until the output reaches 30,000 tons annually. In 1934 exports of rubber amounted to 20,391 tons as compared with 15,352 tons in the previous year.

Other countries involved in the restriction agreement are in positions similar to those described. In most instances restriction is working out fairly satisfactory with one or two major obstacles to be ironed out by local authorities. Each country has also levied a small tax per pound on exported rubber to finance the respective administrative costs involved.

As previously stated restriction has overcome each major obstacle that has confronted it in its first year of operation. Although stocks have not as yet been reduced, and prices have not increased, restriction is working. With an eye towards future stability the Regulation Committee is turning a deaf ear toward the legion of rubber shareholders who advance such plans as a rubber buffer pool to force prices up immediately or to cut quota allotments to 50% of the permissible totals and thus reduce available world stocks in a three to six month period.

Economic Factors Slow Restriction

World economic conditions have not favored restriction measures. The almost constant shifting of gold and silver values and deflation movements have aided too in keeping prices down to their current level. Labor difficulties in the United States have retarded consumption to some extent, although there is every likelihood that this country will set a record for consumption in 1935. These, and other economic factors, have all affected rubber prices, each in their turn.

With one year of restriction behind them the Regulation Committee is expected to embark on an important point included in the rubber cartel, i.e., the dissemination of rubber information on a world-wide basis for the purpose of stimulating rubber research. This research is expected to bring to light dozens of new applications for rubber which will lead to increased consumption and aid in further reducing available world stocks more rapidly than visualized under restrictive measures.

Tire Production in the United States

Considered on a Weight Basis Tire Production Increased in Greater Proportion Than When Figured on a Unit Basis

By L. E. Carlsmith

Author of "The Economic Characteristics of Rubber Tire Production"

MOST of us accept estimates of the increase in magnitude of industries or of individual enterprises without hesitating to question the significance of the standards in which these relationships with time are presented. We may be told that in 1930 wheat production in the United States was 857 million bushels compared with 499 million bushels fifty years earlier, an increase of 72 per cent. Or we may hear that in the same time pig iron production in the country increased from about 3 million tons a year to over 30 million tons, a tenfold increase. In 1913 motor vehicle production in the United States is reported as 485,000 vehicles. Fifteen years later (1928) 4,600,000 units were turned out.

These three commodities are measured by quite different standards—volume in the first case, mass in the second, and unit items in the last. Wheat might have been measured by any of the three criteria without greatly affecting the ratio between the production for the two years reported. The same thing cannot be said of motor vehicle production. Indeed, the quality of the motor car and its place in society has altered so greatly in fifteen years that there is some question as to just what is the significance of the measure reported.

In appraising the growth of an industry, then, one must choose some criterion by which to judge it. It should always be remembered that this choice is somewhat arbitrary, and that the result of the appraisal is limited by the terms in which the growth is described. The production of a commodity such as copper, which in respect to physical and chemical properties may have been constant for years and therefore apparently appropriately measured on a weight basis, cannot be adequately expressed by one measure. The methods of production, and the economic and social significance of a pound of copper have changed greatly in 25 or 50 years. The magnitude of an industry may be stated in terms of volume, mass, units, value of products, area planted, labor employed in the industry, raw materials consumed, or some other measure. The criterion which we choose for the purpose will depend on the nature of the industry, on what is wanted, and on the type of data available. Frequently it is advisable to give several measures.

A great economist says of production that man's ". . . efforts and sacrifices result in changing the forms or arrangement of matter to adapt it better to the satisfaction of human wants."[1] Other economists may word the definition differently, but in general they will agree with the concept as expressed here. Note that production involves matter directly (it may not in the case of rendering a service). Hence it is natural to attempt to measure production in terms of matter or mass, usually expressed as pounds, hundredweight, or tons, or else by the comparable criterion, volume, gallons, barrels, bushels, etc. Another advantage of this measure is that frequently the data are available over a period of years.

The production of automobile tires is reported by the industry as units of casings,

TABLE I

AUTOMOBILE TIRE PRODUCTION IN THE UNITED STATES 1910-1933—ESTIMATED WEIGHTS

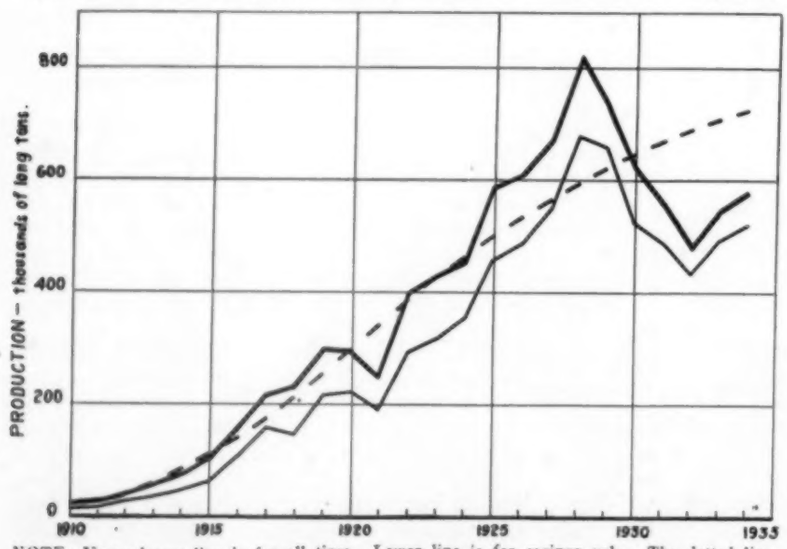
(All figures in long tons and percentages)

Year	Total Tons	Casings Tons	%	Inner Tubes Tons	%	Solid Tires Tons	%
1910	16,700	13,500	81	2,200	13	1,000	6
1911	23,000	16,900	74	3,100	13	3,000	13
1912	39,900	28,300	71	5,600	14	6,000	15
1913	50,700	34,000	67	6,700	13	10,000	20
1914	69,400	45,400	65	9,000	13	15,000	22
1915	104,200	68,000	65	13,200	13	23,000	22
1916	154,200	106,000	69	20,200	13	28,000	18
1917	214,400	155,400	73	26,000	12	33,000	15
1918	227,800	143,800	63	21,000	9	63,000	28
1919	293,000	212,600	73	33,400	11	47,000	16
1920	291,500	221,300	76	33,150	11	37,000	13
1921	245,300	190,100	78	32,200	13	23,000	9
1922	391,800	294,200	75	46,600	12	51,000	13
1923	424,900	318,400	75	56,500	13	50,000	12
1924	458,700	349,400	76	66,300	15	43,000	9
1925	588,800	454,000	77	80,800	14	54,000	9
1926	611,400	483,100	79	80,300	13	48,000	8
1927	668,800	544,700	81	79,100	12	45,000	7
1928	812,900	677,700	83	95,200	12	40,000	5
1929	782,600	660,700	84	90,900	12	31,000	4
1930	610,800	521,000	85	72,800	12	17,000	3
1931	558,300	489,600	88	57,700	10	11,000	2
1932	480,800	431,300	90	43,500	9	6,000	1+
1933	542,200	489,400	90	47,100	9	5,700	1
1934*	578,000	520,000	90	51,000	9	7,000	..

* Preliminary.

CHART I

AUTOMOBILE TIRE PRODUCTION IN THE UNITED STATES 1910-1934—BY WEIGHT



NOTE: Upper heavy line is for all tires. Lower line is for casings only. The dotted line is a trend for all tires.

inner tubes and solid tires produced. A moment's consideration should convince one that such a standard is not wholly adequate. Few commodities have changed so greatly in quality each year during the past fifteen years. The ideal criterion for judging tire production, which might be something like the ton-mile of service, is not available. Even it would have a limited meaning owing to the different changing conditions of the use of the tire and to changes in methods of production.

One of the major changes in the tire during the past decade has been that of size. The tire of today weighs nearly twice as much as its counterpart of fifteen years ago. There is twice as much tire in the present day unit. Part of the change which has occurred in the tire unit therefore can be accounted for by measuring the tire by weight. The weight basis also has the advantage of making it possible to add the production of tires, inner tubes, and solid tires in order to obtain a measure of production more representative of the whole industry. It also tends to weigh the production on the basis of the relative proportions of the various sizes produced.

Estimates of the average weight of tires produced in this country from 1916 to date have been reported earlier.[2] From these estimates and from figures on the production of tires and tubes, calculations have been made for the production of tires on a weight basis since 1910. It has been assumed that the weight of the average tire produced changed little between 1910 and 1915. The figures are presented in Table I. In Table II are the figures for the production of tires in units. The two sets of series are shown graphically in Charts I and II. There are several sources of data for tire production. In this case census figures have been used for the years for which they are available. For inter-censual years since 1920 the figures are those of the Rubber Manufacturers Association, raised by multiplying them by the average ratio of the census figure to the R.M.A. figure for the preceding and succeeding year. For casings many of the figures are taken from the data of Holt,[3] which are somewhat similarly calculated. The estimates for solid tire production are only approximate. For the most part they are based on data for rubber consumed by the industry and on estimates of the composition of solid tires as furnished by leading manufacturers. They form a minor part of the output of the industry.

TABLE II

AUTOMOBILE TIRE PRODUCTION IN THE UNITED STATES

1910-1933

Year	Number of Tires		
	Casings	Inner Tubes	Solid and Cushion
1910	2,400,000	2,000,000	.....
1911	3,000,000	3,000,000	.....
1912	5,000,000	5,000,000	.....
1913	6,000,000	6,000,000	.....
1914	8,020,000	7,907,000	.....
1915	12,000,000	11,400,000	.....
1916	18,560,000	16,785,000	.....
1917	25,840,000	23,257,000	.....
1918	23,000,000	20,000,000	.....
1919	32,840,000	33,255,000	1,455,000
1920	32,400,000	33,000,000	.....
1921	27,300,000	32,082,000	560,000
1922	40,930,000	46,600,000	990,000
1923	45,430,000	57,229,000	945,000
1924	50,820,000	66,600,000	930,000
1925	58,780,000	77,387,000	1,035,000
1926	60,120,000	74,000,000	770,000
1927	63,550,000	70,855,000	813,000
1928	75,530,000	80,500,000	685,000
1929	69,810,000	74,043,000	545,000
1930	50,970,000	54,700,000	250,000
1931	48,740,000	49,167,000	180,000
1932	40,090,000	39,000,000	108,000
1933	45,300,000	44,000,000	160,000
1934	47,200,000	46,200,000	197,000

SOURCES: Census of Manufactures; Rubber Manufacturers Association; India Rubber World; Holt, E. G., Rubber Industry Letter II; *The Rubber Age*.

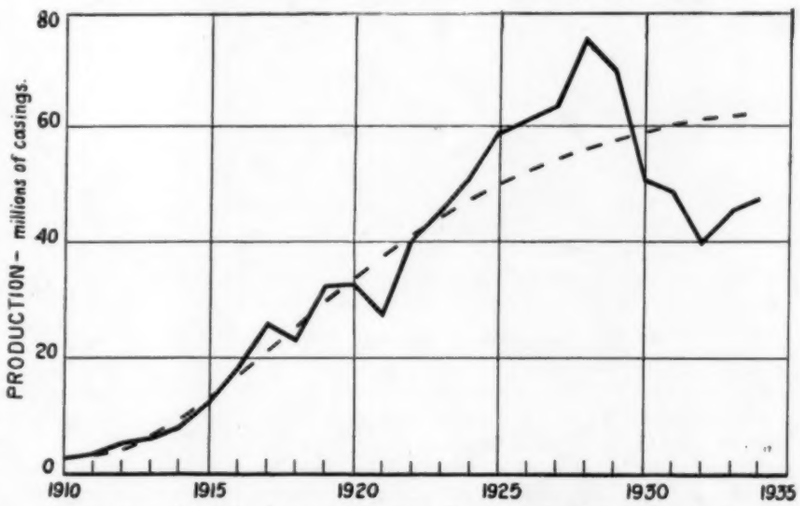
The striking feature of the data is, of course, the predominate part played by casings in the tire industry. Casings at present account for 90 per cent of the weight of the product and 80 per cent of the rubber consumed and about 80 per cent of the value of the product.

The charts portray in general the growth of the tire industry in the United States. When considered on a weight basis tire production increased from 51,000 tons in 1913 to 813,000 tons fifteen years later (1928, which was the peak year in tire production), or approximately 16 times. Between 1920 and 1930 the increase was 2.1 times, and between 1914 and 1934 it was 8⅓ times. Considered on a unit basis (for casings only, see Table II) these figures are respectively 12.5, 1.6, and 5.9. The increase in the magnitude of tire production when measured on a weight basis then appears to be 25 to 30 per cent greater than when it is measured on a unit basis. On the other hand, if the drop in tire production from 1928 to 1934 is measured on a weight basis, it is considerably less than when measured on the unit basis. On a unit basis production for 1934 was 62½ per cent of what it was in 1928. On a weight basis the figure is 71 per cent, thus indicating that the drop in production in the industry may not have been as drastic as is popularly supposed. For a complete picture, of course, one should consider values of products, labor employed, profits and other factors. The trough of the depression for tire production was the year 1932 when only 481 thousand tons of tires were manufactured. This is 59 per cent of the 1928 production. The 40 million casings produced in 1932, however, is only 53 per cent of the 75 and a half million made in 1928.

The two charts on tire production indicate that there has been a material decrease in production during the depression. This decline, however, may not be entirely a manifestation of the depression. It is partially accounted

CHART II

PRODUCTION OF CASINGS IN THE UNITED STATES 1910-1934—IN UNITS



NOTE: Upper heavy line is for casings only. The dotted line indicates the trend.

[1] Marshall, A., Principles of Economics, 8th Ed. Macmillan, London, 1930.
[2] The Rubber Age, 37:2 (May 1935).
[3] Holt, E. G., Rubber Industry Letter No. 11, special circular No. 3500, Rubber Section, Bureau of Foreign and Domestic Commerce. Dec. 1, 1933.

for by the increase in quality of the product. Production fell in 1929, when for other industries it was still rising.

Probably as reliable a single indicator as there is of the amount of automobile driving done in the country is the consumption of gasoline. While in 1932 tire production was around 60 per cent of the 1928 figure, gasoline consumption for the year was 374 million barrels or 11 per cent higher than the 1928 figure.

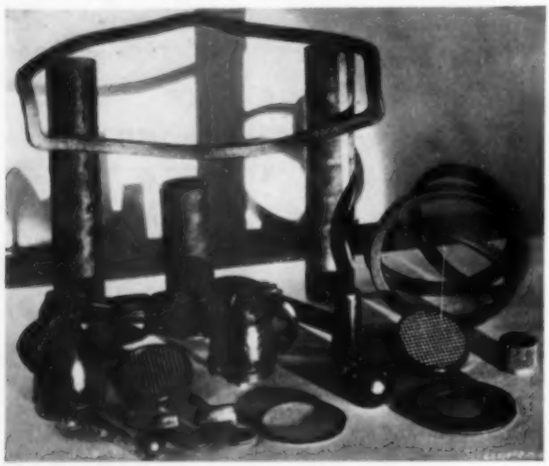
In 1934 gasoline consumption exceeded that for the previous high year, 1931. There were only about 12 per cent fewer automobiles registered in the United States in 1933 than in 1929.

Some of the series shown in the charts have been fitted with trends—the dotted lines. These trends are of the so-called growth curve type commonly employed in depicting population growths. While they may indicate the general nature of the growth in the past, they do not represent any fundamental relationship between time and magnitude of production. Forecasting on the basis of these empirical relationships, therefore, should be attempted with caution.

Rubber in the Ford V-8

IN the last eight years the quantity of rubber used in Ford motor cars has practically trebled. The Model-T contained only fifty-six pounds of rubber; the 1935 Ford V-8 contains 164 pounds of rubber. If the Ford Motor Company fulfills its announced intention of producing one million V-8 cars and trucks this year it will utilize approximately 164,000,000 pounds of rubber. These interesting figures were brought to light recently by an investigation conducted by the company.

All Ford rubber compositions are made to specifications and tested before use in car construction. Steering wheels must withstand drops from a height of six feet after twelve hours exposure to a temperature of 20 degrees below zero Fahrenheit. Windshield weatherstrips are exposed to the hot sun and high humidity on the roof of the branch plant at Jacksonville, Florida, to determine anti-checking and anti-splitting qualities. Rubber matting is tested for resistance to abrasion and, in addition, running-board stocks are checked for their qualities in bonding to steel. Rubber used for motor supports and axle bumpers is subjected to a distorting force in excess of any that would be encountered while in use. Fan belts



Rubber parts used on the Ford V-8.

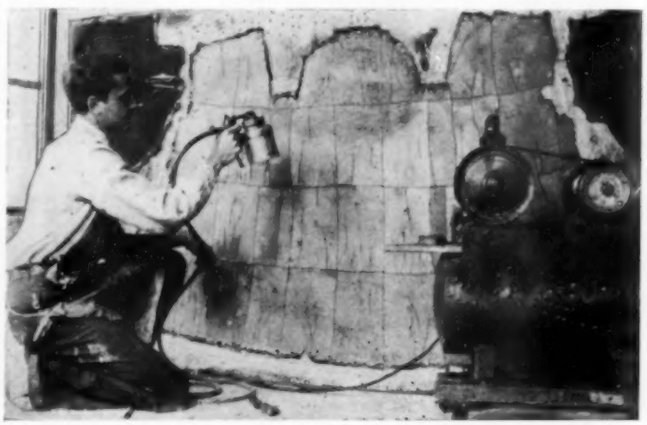
are tested for stretch, and improvements based on these laboratory findings have reduced the stretch in Ford fan belts to one-third of what it was, though the present belt is 50 per cent longer than that used on previous models.

Ford subjects the tires it uses to severe tests. In the laboratory, Ford-developed machines test for carcass and bead fatigue and indicate tread-wear resistance. Other machines check for resistance to bruise-breaking. Tires are sent for testing to the River Rouge plant from all company plants throughout the world. Regardless of where the tire was manufactured, Ford maintains control. To determine their stability at high speed, tires are also tested on the road. To aid in determining the actual mileage given in service, the company periodically measures the design remaining on tires in use on employees' cars.

Strengthening Furs with Latex

MILLIONS of rabbit skins are imported into this country every year from New Zealand, Australia, Japan, France, and other countries. Some of these skins are strong in texture; others are weak. Latex plays an important part in strengthening these weak skins adding longevity to the finished garment.

The average fur coat made from rabbit skins is termed either a Sealine or a Lapin, depending upon the length of the hairs. It is made up of some fifty pelts, dressed, dyed, sewn together, which are stretched to a pattern



Spraying rabbit skins with Stainex.

while wet, and then nailed on boards in a moist condition retaining its shape while drying.

Weak skins have a tendency to rip apart, particularly at the seams joining the individual skins in the pattern. To prevent such action latex is sprayed on the skins which are further reinforced by a layer of strong cloth. A specially compounded vulcanized latex must be used. It must withstand an aging test of at least three to four years; withstand temperatures as low as 50 degrees below and 125 degrees above zero; and must not penetrate the skins, since there is a tendency to stiffen the pelts if penetration occurs.

Such a latex is used in the Stainex Process developed by the Stainex Chemical Company, of New York City. The specially compounded latex is sprayed or brushed on the flesh side of the skins while they are on the nailing boards. After spraying, or brushing, strong cloth, which must not contain any trace of copper dyes, is immediately attached to the thin layer of latex. As the Stainex (or latex compound) dries, a strong bond is formed between the skins and the cloth, giving increased strength to the garment, and preventing stretching, tearing or ripping of the furs.

According to the company, Stainex processed furs have been submitted to an atmosphere of compressed oxygen (oxygen bomb test), as well as to one of excessive heat (Geer oven test), and also packed in dry ice (120° below zero) for periods equivalent to four years of normal temperatures, without any injuries to the skins.

Uses of Rubber in the Home

Review of Rubber Household Products Reveals a Wide Variety of New Items the Majority of Which Are Designed to Make the Housewives' Work Easier

By M. E. Lerner

IT IS EXTREMELY doubtful whether housewives in general have even a faint conception of the technology of rubber. Yet rubber is rapidly proving itself "The Housewives' Emancipator" as more new and useful rubber products for use in kitchen, pantry and bathroom are added to the growing list. Within the past few years the number of rubber products for use in these three divisions of the home has probably doubled. Each new additional product is designed to make the housewives' work simpler and easier. A review of the household products made by every rubber manufacturer in the United States is, of course, impractical within the available space, and accordingly only a few of the newer and more typical products are described in order to give a fair picture of current uses of rubber in the home.

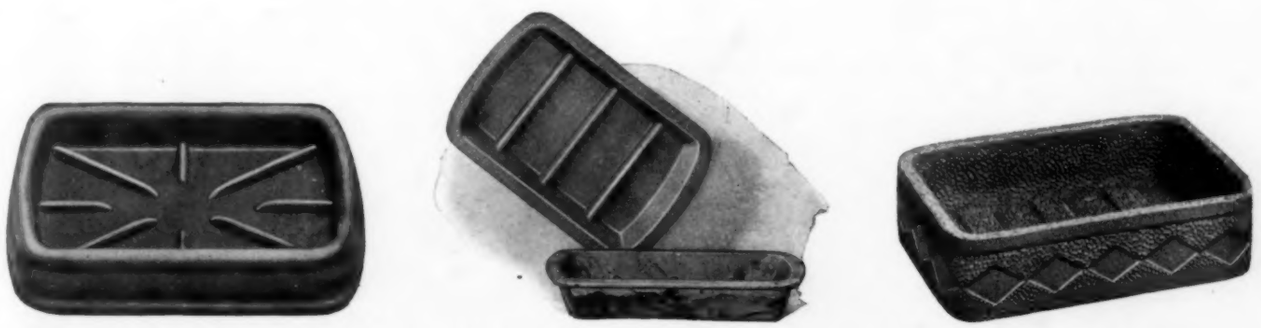
One of the "sore" spots to housewives in the kitchen is the sink. Here is congregated remnants of meals with greasy, grimy dishes which must be washed and dried. After the dishes are disposed of there remains the dregs and dirt which must be collected and deposited in garbage cans. Then the sink itself must be washed and cleansed to maintain that air of purity common to the American Home. In practically every one of these indispensable operations a rubber product eases the road.

To start the cleaning-up preparations Mrs. Housewife may don a pair of rubber gloves. Being one of the most competitive products made by the rubber industry gloves are low-priced and are available in a large variety of styles. For instance: Seiberling Latex Products Company produces a line of rubber gloves featuring a non-slip surface, among other styles. The Wooster Rubber Company, merchandisers of the Rubbermaid line of rubber products, has a line of all-purpose gloves ranging in size from 7 to 8½, each packed in attractive Cellophane-wrapped boxes. Miller Rubber Products Company also has a line of rubber gloves for the home.

Here we see a typical housewife putting the Anode rubber-covered dish drainer, made by Goodrich, to excellent use.

Grime may be removed from dirty dishes by means of rubber plate and bowl scrapers. The Auburn Rubber Corporation has a dish scraper, all-rubber in construction, of double-end style so that it fits all shapes of pots, pans, cups, dishes and plates. Wooster Rubber has a scraper that may be used in connection with electric mixers. This scraper comes in two styles, both of which have flexible rubber blades to conform to the shapes of all kitchenware. Rubber scrapers clean more readily and prevent scratching.

To thoroughly cleanse pots and pans is an unpleasant



Variety features the line of rubber soap dishes made by Lee Tire & Rubber Company. On the left is the Duplex Dish, with eight ribs for the drainage of water; in the center is the DeLuxe Dish, with three high ribs to prevent soap sticking to the bottom of it; on the right is the Pebbled Dish.

and disagreeable task. Generally steel wool is employed by the housewife in this connection. Steel wool is rough on the hands. To alleviate the handling of the rough wool there are available rubber steel wool holders. Wooster Rubber features an article of this nature which has a hollowed handle into which the steel wool may be placed, while a surrounding ridge of rubber further protects the user's hands. The flexibility of this item permits it to shape itself to the contours of the pots and pans to be cleaned. Another holder is made by Auburn Rubber and is termed a "hand protector." This is simply a flat piece of rubber in which the steel wool is placed and held in position while being used by means of pressure of the hand.

To prevent the sink from the scratching it usually receives when dish pans and cooking utensils are being cleaned, rubber sink racks may be utilized, such as the one produced by Wooster Rubber which has four wide grooves in it to permit the water to drain. This rack may also be used as a cake cooler, thus eliminating the need of a dish pan, because of the open panels. Sink stoppers, generally of flat suction type, which form a vacuum when placed over the drain thus retaining the water, are still other items useful in dish cleaning operations.

It is inevitable that refuse from dirty dishes and pots and pans clutter up the sink during the washing performance. Here rubber sink strainers become very useful for depositing the refuse. One such strainer, made by Wooster Rubber, is specially designed with holes at only one end for draining. Rubber legs raise the back of this strainer higher than the front, so that water quickly drains down ribs in the bottom of it and runs out through the holes at the front. An interesting feature of this Rubbermaid product is found on the bottom of it. Where the drain holes are located there is a ridge of rubber all around. Two fingers of the hand may be placed within this ridge effectively covering up the drain holes, thus permitting the strainer to be picked up and carried to garbage can or incinerator without dripping water over the floor. Auburn Rubber also produces a rubber sink strainer with the conventional drain holes at the bottom.

After the pots, pans and dishes have been washed the general practice is to allow them to drain a few minutes before drying them. Rubber drainboard mats are available for this purpose. Lee Tire & Rubber Company produces a drainboard mat with a rim around the outer edge and a corrugated design which allows water to run off freely. Wooster Rubber's drainboard mats are equipped with grooved channels, rather than a corrugated design, the channels carrying the drained-off water back to the sink. The mat is ribbed and designed to keep the dishes from sliding. The opposite sides of these Rubbermaid mats are perfectly smooth and may be used as pastry boards since they are odorless. Use of rubber drainboard mats prevents cracking or chipping of dishes and pots, also serving to eliminate breakage to a large extent.

A variety of Rubbermaid work-savers produced by the Wooster Rubber Company specifically designed to appeal to the housewife. Included in the assortment are rubber sink strainers, drainboards, dust pans, scrapers, etc.

Also available for water-draining of washed dishes and pots are rubber-covered dish drainers featured by Goodrich. These drainers are made by the Anode Process and further safeguard dishes from breakage possibilities, as well as chipping or cracking.

To finally clean the sink after the washing operation there is the rubber sink scraper, generally shaped like a small shovel with an easily gripped handle to scoop up scraps from the sink to be deposited into the sink strainer, or directly in the garbage can as the case may be. These scrapers may also be utilized to sweep crumbs and parings from the dinner table. They may also be used for cleaning small panels or French windows, serving as a wiper or squeegee. Wooster Rubber produces a Rubbermaid sink scraper combining the several uses mentioned.

Finally, to make the housewives' sink job easier, there are available a large variety of rubber household mats for protecting floors around the sink from splashed water, and also to rest the sink attendant's feet. Wooster Rubber has an all-purpose mat made of thick sponge rubber of the size of a small rug. Lee has a sponge rubber pad with bevelled edges all around. Goodyear has a line of

all-purpose mats, many of them featuring pictorial designs, made of corrugated rubber matting. Goodrich manufactures a line of perforated mats, although these are more or less intended for door use, rather than in the kitchen. Many other rubber manufacturers produce rubber mats for general utility purposes. So much for rubber products specifically designed for kitchen use.

For pantry use there are available rubber jar openers, a fairly recent item. Seiberling Latex Products is featuring the "Ezy-Grip" screw cap opener. Odd-shaped, this jar opener fits all sizes of screw caps from tiny aspirin bottles to Mason jars. It has a smooth surface on the inside with ridges on the outside to permit the user to get a firm grip for the necessary twist that opens bottle and jar caps. A rubber jar opener produced by Lee Tire & Rubber differs from the Seiberling product in that it is of circular construction with deep corrugated grips to permit loosening of tight seals. Its flexibility allows it to be used on practically all sizes of jars, bottles, etc. A solid rubber top eliminates danger of burning the hands on hot covers. Use of rubber jar openers also eliminates danger of cuts from sharp metal cap edges.

In the bathroom there are, in addition to rubber shower heads and sponges, rubber soap dishes of which there are a large variety available. Lee Rubber features four different types: the DeLuxe Soap Dish made with three high ribs to prevent the soap from sticking to the bottom of the dish; the Duplex which has eight ribs all leading to the center of the dish for easy drainage; the Pebbled Dish which is deep and sturdy with a pebbled design; and a molded sponge rubber dish with the word "soap" inscribed at the bottom. Seiberling Latex, Wooster, Auburn and Faultless are among other rubber manufacturers producing rubber soap dishes.

A novelty washboard, termed the "Daintee" is featured by the Auburn Rubber Corporation for every-day washing of silk hosiery, lingerie and baby clothes. It is intended for use in the wash basin, but may be used in the tub. Corrugated rubber gives the necessary ribbed surface for washing purposes.

Kneeling pads of sponge rubber for use in the bathroom, as well as other parts of the house and outdoors, are valued by the housewife. A combined kneeling pad and seat cushion produced by Lee Tire & Rubber is made of soft sponge rubber. Each pad is attractively stenciled with illustrations and instructions for its use. It is equipped with a small hole by which it can be hung when not in use. Auburn Rubber, too, produces a similar kneeling pad.

Another Auburn rubber novelty for bathroom use is a vacuum cup clothes line which is self-attachable to any wall or casing, and makes for an excellent line for overnight drying. This rubber vacuum cup is especially designed for homes where overhead driers are not available.

Three Seiberling Latex items for home use: a fly swatter with twenty rubber switches, the Ezy-Grip screw-cap opener, and non-slip gloves.

Two of the latest items for use in connection with the bath, in addition to the general line of bath mats and sponges, are the Savafal bath grip and rubber foot grip, both of which have been described in previous issues of THE RUBBER AGE. The former item is equipped with suction cups which hold it firmly in position when it is slipped over the side of the tub providing a grip for the occupant. The rubber foot grip is also equipped with suction cups which holds it firmly to the bottom of the tub, further preventing any possibility of slipping in the tub while showering or bathing. Both items are all-rubber in construction and are marketed by Rudolph, Healey & Scudder, Inc., of New York City.

Several Novelty Items Available

For general work around the house Wooster Rubber is producing a self-holding rubber dust pan molded all in one piece. It is flexible and shapes itself to the floor so that little remnants of dust are left on the floor, if any. Self-holding, this dust pan "sits" flat on the floor leaving both hands free for handling a broom. It will not scratch floors or furniture.

Another rubber item for the home, which sees action particularly in the Summer, is the Corner Clipper Fly Swatter featured by Seiberling Latex Products Company. It is made with 20 rubber switches which get into corners and around edges where flies are usually hard to catch. Soft, flexible and durable this fly swatter will not tear curtains or other fine materials, will not mar furniture or

Another group of Lee rubber products for the home. From left to right: drainboard in corrugated design; sink mat also featuring corrugations; jar opener with corrugated inner grips; and a sponge rubber utility kneeling pad.

woodwork, and leaves no marks. It is available in three colors—red, green, and black.

There are naturally a goodly number of other rubber products for use in kitchen, pantry and bathroom. Among such items, which would fit in a miscellaneous category, are the following products made by Lee Rubber & Tire Corporation: rubber door stops with a special non-slip finish which holds doors open at any position; cuspidor mats; rubber window wedges for eliminating rattles; rubber coasters for use under glasses, tumblers, vases, etc.; various sponge rubber cushions; and rubber caster cups for use under furniture legs.

Another miscellaneous item is a rubber table protector, made by Wooster Rubber, designed to protect tables from being chipped or marked by kitchen devices which must be clamped down, such as meat grinders, ice crackers, juice extractors, etc. The "protector" slides over the edge of the table. Still another is the Goodrich Griptite Rug Cushion 3/16" thick, which anchors rugs firmly on smooth floors, holding them precisely in place, and keeping large rugs from wrinkling and bunching up.

Rubber bottle stoppers, such as the Tos-Top stoppers, merchandised by the Tos-Top Sales Company, of New York, are additional miscellaneous items finding practical use in the home. These rubber stoppers slide over the neck of a bottle while a solid sphere of rubber settles over the bottle opening. A flick of the thumb slides the stopper off the top for pouring purposes, a slight push placing it back in position.

England Contributes Several New Products

Several new rubber items for use in various divisions of the home have been recently brought out in England. Among these is the "Mystic Marvel," a cleaning pad of rubber with smooth sole crepe on one side and rough-surfaced brown crepe on the other. The pad, when used wet in conjunction with a cleansing agent, effectually removes stains from sinks, baths and other places.

Two other British items of recent origin are a novel window cleaner and a floor washer. The former consists of a metal container, fitted with a handle, one side of the container having a strip of squeegee rubber and the other a felt pad. In operation the container is filled with water which percolates through to the felt pad. The felt is then rubbed over the window, after which the squeegee quickly removes all traces of moisture, leaving a clean, clear surface.

The floor washer is a labor-saving device consisting of a sponge rubber washing pad with a long handle, and an auxiliary roller for cleaning the pad itself. In using this device the rubber pad is dipped into soapy water and is then pushed over the floor surface to be cleaned. After rinsing and drying with the secondary roller the pad is then used to dry the moist floor.

Still another item is made by the Langham Rubber Company, Ltd., of London. It is a heat-resisting rubber handle termed the "Handigrip." It can be used on kettles, saucepans, frying pans, coal scuttles, and similar items.

Each year sees the addition of some other new product made of rubber for use in the home, particularly the three divisions where housewives find their work concentrated, i.e. the kitchen, pantry and bathroom. As remarked, practically every new rubber product intended for use in the household further eases the difficulty of cleaning and washing. Unfortunately for the housewife, rubber cannot take over her actual duties, but that it has materially lessened the difficulties connected with them may be seen from the many products now available for home use.

Uses of Latex Paste

WELCOMING the introduction of rubber latex paste packed in small tins or collapsible tubes, recently introduced to the British market, P. J. Burgess, chairman of the London Advisory Committee for Rubber Research of the Rubber Growers' Association, Inc., discusses varied possible uses of the paste in the January issue of the Association's *Bulletin*. Mr. Burgess is credited with having brought several gallons of latex into England from Malaya for experimental purposes thirty years ago. Due to difficulties in technique in using natural latex, which is too fluid for the public to conveniently handle, Mr. Burgess describes the recently-introduced latex paste in collapsible tube form as being "concentrated until it has thickened to a dense cream which is very easy to spread to a very thin film. It also has been stabilized in such a way that setting is delayed sufficiently to allow of easy manipulation."

Wide Range of Domestic Uses

More than one-half of the total weight of the new paste is rubber, the resultant adhesive film is reasonably waterproof and the joint once made is sufficiently strong for a very wide range of domestic purposes. It is creamy in nature, elastic and entirely flexible. In its improved form Mr. Burgess visualizes "a real spate of new ideas for applications of latex as an adhesive." He makes mention of the use of latex as an easy means of rubberizing surfaces with either a thin or thick layer of rubber without any other manufacturing process being involved.

According to Mr. Burgess, the new latex paste makes darning of cotton or woolen socks and stockings unnecessary for patches can be stuck on in a fraction of the time needed for darning. Any water absorbent surfaces, such as leather, to any other surface can be fixed almost instantaneously with a joint which is immediately waterproof. When used for sticking fabrics a hot iron can be used to advantage in pressing the two layers together, thus preventing the cream making its way through the fabric and showing as a film on the outer side. He also suggests that the latex paste be put up in colored form for use with colored fabrics it being only necessary to incorporate an alkaline water-soluble dye in the latex.

Bulk Uses Also Visualized

With reference to bulk uses of rubber latex paste the writer sees still other purposes, such as in connection with laying linoleum. If the edges of linoleum be pasted down with latex paste the use of tacks or other fastening is unnecessary. Wood can be stuck easily to a glass surface, opening up a new use in the home for attachment of fittings to glass-tiled walls. Plaster walls need not be broken by nails and tacks if latex paste is used for adherence of reasonably light articles. String may be joined together by ravelling the ends and rolling them together with rubber latex paste.

In concluding his article Mr. Burgess adds a note of warning in connection with the use of latex paste. It is important that the paste is not allowed to smear on clothes or any fabric where it is not wanted since only a rubber solvent can remove the resulting stain and that with difficulty. He also adds that the dried film of rubber will pick up dirt around edges, etc., if too much is used, making an unsightly dark mark. (Messrs. Bateman, 19, British Grove, Chiswick, W. 4, England, are now manufacturing a rubber latex paste retailed in collapsible tubes.—EDITOR).

Some of those who attended the New York Rubber Group outing.

Rubber Groups Hold Outings

New York, Akron and Rhode Island Groups Hold Their Annual Outings Featuring Athletic Contests and Golf Tournaments

THE SECOND Annual Outing and Picnic of the New York Rubber Group was held at The Alps Castle, Preakness (Paterson), New Jersey, on Saturday, June 15. Two hundred and two members and guests were in attendance, the majority of whom engaged in one or more of the many athletic events arranged by the committee in charge of events, headed by J. Miscall, of the Flintkote Company, as chairman.

One of the feature items on the program was a soft ball tournament, in which seven teams participated. After a series of elimination games the team representing E. I. du Pont de Nemours & Company was adjudged the victor of the tournament after beating the R. T. Vanderbilt team by a score of 9 to 1, and was awarded the silver loving-cup donated by the *India Rubber World* for one year. Fountain pens donated by R. T. Vanderbilt were awarded to home run hitters, i.e., the Messrs. Mercurio, Vilneer, Jacoby, Barth, Williams, Carter, Edland and Comes.

The Tennis Tournament was won by Mr. Comes in an elimination series of one-set matches, presided over by J. M. Ball (Vanderbilt). Mr. Opper was runner-up. Messrs. Lamella and Jackson were adjudged winner and runner-up of the horseshoe pitching contest, after a close match. Much attention was centered on this contest during the afternoon. A prize for the winning of the Boochie contest went to Mr. Bullifant, with Mr. Norton in the runner-up position. Several prizes were awarded various winners in the golf tournament, as follows: low gross, 79, Bainbridge;

Scenes of the New York Group's outing. Top, left to right: "Butch" Hamister preparing the ring; mess call; the victorious DuPont soft ball team; Ernie Bridgwater ready for a fast one; believe it or not the boys are drinking water. Bottom, left to right: mixing it during one of the three lively bouts; "Umpire" Walter Higgins calling them; the referee, judges, chairman, announcer and two of the contestants.

high gross, 157, Stose; low putts, 27, Smith; most birdies, 2, McCreary.

Climaxing the various athletic contests were three lively amateur boxing bouts in the late afternoon. The antics of W. C. Lingvall (U. S. Rubber), in charge of the bouts, and W. O. "Butch" Hamister (Naugatuck) as referee, in addition to Walter Higgins (United Carbon) as unofficial announcer, were as interesting as the bouts. Messrs. Curtis and Scott served as judges.

Following the boxing matches dinner was served, during which the various prizes were awarded donated by the following companies: Armstrong Products Co., E. I. du Pont de Nemours & Co., General Atlas Carbon Co., Flintkote Co., *India Rubber World*, Naugatuck Chemical Co., Stamford Rubber Supply Co., THE RUBBER AGE, United Carbon Co., R. T. Vanderbilt Co., and Vansul, Inc. Music during the dinner was supplied by singing troubadors.

In addition to the dinner, beer, frankfurters and sandwiches were served throughout the day, and the larder was depleted as rapidly as it was filled. In addition to Chairman Miscall, C. A. Bartle, of du Pont, acted as Master of Ceremonies during the day's activities.

Akron Rubber Group Outing

FEATURING a golf tournament in the afternoon, the Akron Rubber Group held its annual outing on Friday, June 21, at the Fairlawn Heights Country Club, which attracted more than 225 members and guests. Unfortunately for the participants in the golf tournament a heavy downpour started shortly after the second foursome teed off, and continued all afternoon and evening. Despite the rain some fifty hardy golfers played through. No organized tournament was held because of the weather, although scheduled, and the only prize awarded was for a blind bogy which was won by Larry Keltner of Goodrich.

More than 75 prizes were donated by some 40 individuals and firms, which were distributed during the annual dinner by the drawing of lucky numbers. Harry Bourne, past president of the Group, officiated as Master of Ceremonies in the drawing of prizes. Preceding the dinner members and guests amused themselves with community singing and odd games of an indoor nature.

During the dinner the attendants were favored with musical numbers through the courtesy of Dave Scott, with Ray Dinsmore directing and Bert S. Taylor at the piano. Vocal choruses were also contributed by various diners most of whom prefer to remain anonymous. Although the rain was a keen disappointment, the outing (if indoor sports and games may be termed such) was successful.

Rhode Island Group Outing

APPROXIMATELY 55 members and guests attended the Annual Outing and Meeting of the Rhode Island Rubber Club, on June 27, at the Pawtucket Country Club, Pawtucket, R. I. Thirty-six members participated in a golf tournament which preceded the usual dinner, with high individual club honors going to N. G. Madge.

Following the dinner Robert Cowen, Appleton Rubber Company, Chairman of the Nominating Committee, announced the selection of officers for the ensuing year, all of whom were elected without opposition. The new officers follow: president, L. D. Walker, Collyer Insulated Wire Company; secretary-treasurer, F. E. Rupert, Anaconda Wire & Cable Company; and the following members of the executive board: E. G. Brown (National India Rubber), D. C. Scott, Jr., (Henry L. Scott), E. L. Hanna (Davol), M. G. Madge (U. S. Rubber), Gladding Price (R. T. Vanderbilt), Charles Berlow (American Wringer), Arthur Carr (Carr Mfg.), and Sam Tinsley (Respro).

The feature address of the evening was a paper read by E. M. Toby, Jr., manager of the Naphtha Division of the American Mineral Spirits Company, New York City, entitled "Petroleum Solvents—Origin, Specification and Applicability to the Rubber Industry." Mr. Toby in his opening remarks traced the industry for the past ten years and stated that petroleum solvents and naphthas are today widely used for many purposes. In by-gone days these materials did not meet the industry's existing general specifications, but today naphthas and solvents can be made to exact individual specifications, suiting specific needs as required. He mentioned particularly the use of improved naphtha in dipped rubber goods stating that 90% of these manufacturers were located in the Ohio Valley and that some in the industry believed that summer and winter specifications should be used.

He also stated that the manufacturers should furnish mills a uniform specification of naphtha. Furthermore, that periodic plant observations should be made jointly by dipped goods manufacturers and refining people to study conditions in each individual plant and that by close study it is possible that means will be found to eliminate or greatly reduce expensive blisters, streaking, etc.

The following companies donated prizes for the Golf Tournament: Anaconda Zinc Oxide Co., Atlantic Tubing Co., Binney & Smith, Davol Rubber Co., du Pont, Industrial Paper & Cordage Co., Naugatuck Chemical Co., Solar Compounds, U. S. Rubber Co., U. S. Rubber Reclaiming Co., R. T. Vanderbilt, L. G. Whittmore Co., Wishnick-Tumpeer, Inc., and the Barrett Company.

Rained-in at the Akron Outing at the Fairlawn Heights Country Club

Photo by Allyn K. Thayer

E. H. Nahm, H. J. Adams, B. S. Taylor (at piano), R. P. Dinsmore, H. W. Gleichert and M. C. Almes engage in a little song-fest.

F. H. Pough, H. W. Croysdale, J. R. Moore, C. P. Hall, and M. Achterhoff seem to be enjoying themselves despite the rain, what with drinks, stories, gossip, etc.

R. D. Brewer, C. A. Bartle, H. A. Hoffman, Dave Scott, unidentified, J. Watters, and C. A. Carlton all gathered around a square table for a round-table talk.

A. Brill, president of the Akron Group, draws the first lucky ticket as H. A. Bourne and E. C. Zimmerman look on.

New Equipment

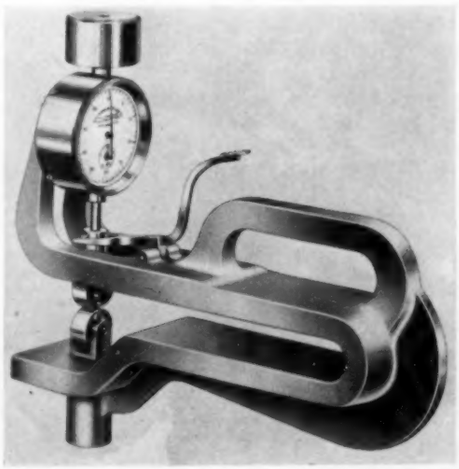
Creasey Material Breaker

ORIGINALLY developed as an ice breaker the Creasey Material Breaker manufactured by the Cochrane Corporation, of Philadelphia, Pennsylvania, is now being used in chemical plants and other types of fac-

tories for breaking down mineral rubber, rosin, naphthalene, borax, shellac, and other materials which break away and fall when struck with a sharp pointed stick. The breaking is accomplished by these sticks held by friction in sockets in the periphery of a heavy cast-iron rotating drum. Interchangeable combs through which the broken pieces must pass determine the size of the broken material which may be broken down to the size of the finger tips. The Breaker is furnished in capacities ranging up to 50 tons per hour. It is capable of handling pieces of material as large as full size ice cakes.

Randall & Stickney Gauge

REPRODUCED herewith is the Randall & Stickney Hand Grip Rubber Gauge, a product of Frank E. Randall, 248 Ash Street, Waltham, Massachusetts, described in the May, 1935 issue of THE RUBBER AGE. This



gauge is designed for measuring the thickness of material as it moves through the calender. It has a range of ½", weighs 4 pounds, and has an aluminum frame. Five new models are being produced by the manufacturers.

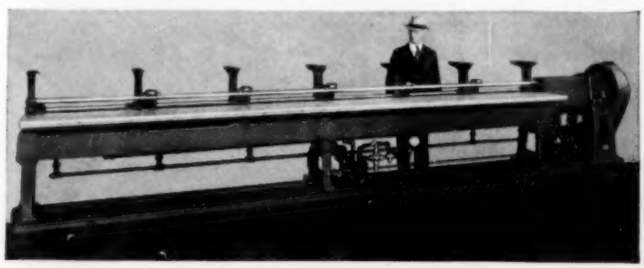
Hisey-Wolf Electric Roll Grinder

FOR use in refinishing the rolls used in rubber plants the Electric Roll Grinder has been introduced by the Hisey-Wolf Machine Company, Cincinnati, Ohio. It is adaptable to practically any machine and rolls can be ground without removing them from their places in most

instances, saving time and eliminating shut-downs to a great extent. By means of constant speed motors the grinder operates at practically the same speed under any load within their rated capacity. Ordinary vitrified wheels can be used with safety since the grinder does not depend upon speed for power. It is designed to permit mounting of the grinding head close up to the roll. The spindle speeds are not limited by the speed of the motor. Rapid adjustment of the wheel to the center of the work is accomplished by means of a dovetail slide with screw feed and handle. The grinder may be used horizontally, vertically or in any intermediate positions. The lubrication system is arranged to envelope all bearings in a mist of oil irrespective of the position in which the machine is operated. The oil is filtered automatically. The motor, with special laboratory dynamic balance, is equipped with ball bearings. Motor ratings are for continuous duty with temperature rise not to exceed 40° C. The Hisey-Wolf Electric Roll Grinder is made in four sizes from 1 to 3 H.P., and for use with grinding wheels 8, 10 and 12 inches in diameter.

Improved Hose Machine

FEATURING several new improvements in its design, a new hose machine which is said to permit higher speeds and facilitate operating control, thus resulting in increased output and lower unit production cost, has been introduced by the Farrel-Birmingham Company, Inc., of Ansonia, Conn. Uniform pressure is obtained through the

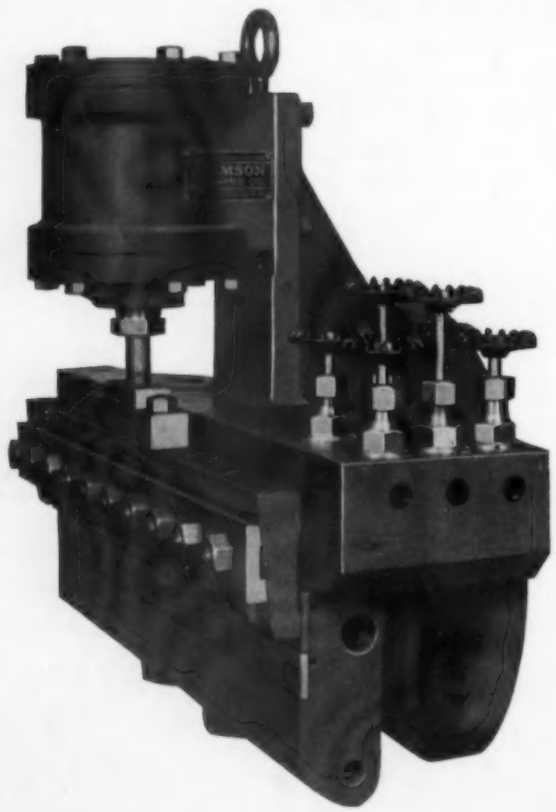


medium of compressed air, which not only lowers and applies pressure to the top roll but also raises the roll when the operation is completed, eliminating the counterweights formerly employed. Electro-pneumatic control of the roll operating mechanism, inter-connected with the driving motor and actuated by a foot treadle extending the entire length of the machine, facilitates control by providing automatic starting and stopping of the machine. The

machines are driven by either a geared type motor or a standard motor coupled to a separate enclosed gear unit. From the gear unit multi-V-belts connect to an enclosed set of cluster gears at the driving end. From the cluster gear set universal joints drive the rolls of the machine which rotate the hose being made or wrapped. The machine is driven entirely from one end, connecting gears at the far end of the rolls having been eliminated. Maximum output is said to be obtained where a single machine is devoted to one operation of either making or wrapping but where production requirements permit, the three operations of making, straight wrapping and cross wrapping can be performed on one machine. In such cases the machine is equipped with a two-speed motor having a low speed for making and high speed for wrapping. There are four models available ranging in capacities from ¼" to 4" O.D. Standard machines are made in any length up to 50 feet, while special machines can be made for longer hose if desired.

Adamson Tread Extruder Head

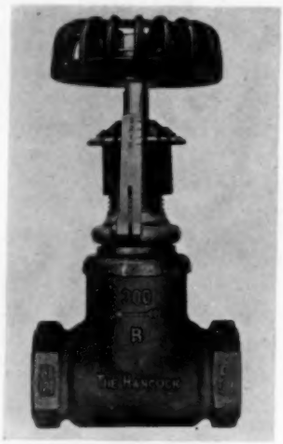
ALREADY in use in several leading tire manufacturing factories, the Adamson Machine Company, Akron, Ohio, is featuring a tread head adaptable to all standard makes of tubing machines. The coring is so ar-



ranged and choked as to assure accurate tread extrusion from the narrowest tread up to one 25" in width. The dies are locked in place by means of an air cylinder which operates at from 40 to 60 pounds pressure, enabling a die change to be made in a few seconds. The tread head has three distinct circulatory systems permitting the operator to control the temperatures at the center or either side of the tread section. The delivery end is grooved for an electric heating element. According to Adamson, this tread head in many instances when applied to old tubing machines has increased production by as much as 33 1/3%. It is designed for the 6" and 8" machines.

Hancock Flocontrol Valve

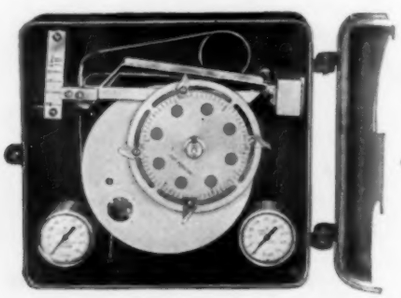
INTENDED for use with steam, oil, water or gas, the Hancock Valve Division, of the Consolidated Ashcroft Hancock Company, Inc., Bridgeport, Connecticut, has introduced the Hancock Flocontrol Valve, said to be



the first of its kind ever presented. The flow through the new valve is always directly proportional to the number of turns of the hand wheel because of a specially slotted seat. In other words, the user secures straight line control. By means of a micrometer adjustment the Flocontrol Valve can be regulated to within 1/10th of a turn. If the valve is set at two turns open, twice as much steam or liquid will pass through it than when it is set at only one turn. It can handle pressure up to 3,000 pounds. The new valve is available in either globe or angle types, in sizes from ⅜" to 2".

Taylor Intermittent Controller

DIFFERING in function from the Taylor Time-Cycle Controller, a new control instrument, termed the Taylor Intermitter, has been made available by the Taylor Instrument Companies, Rochester, New York. The new instrument is limited to the repetition of a single operation while the first-named controller is capable of performing a number of different operations during the revolution of a cam. Intended for the automatic, intermittent operation of diaphragm valves, or other diaphragm-operated devices, the Intermitter has a circular cam on which the proper number of actuating lugs may be placed, the number of lugs corresponding with the number of operations to be performed during the rotation of the cam. As many as twenty lugs may be used. It is possible to operate



more than one diaphragm valve or similar device from the same instrument. It may be mounted on any diaphragm motor or in any convenient adjacent location. The Taylor Intermitter is available in reverse-acting or direct-acting types.

REVIEW SHELF

• Monthly Review of New Books, Pamphlets, Company Catalogs, Service Bulletins, House Organs, etc., Pertinent to the Industry

ANNUAL SURVEY OF AMERICAN CHEMISTRY. Volume IX. 1934. Edited by Clarence J. West. Published by the Reinhold Publishing Corporation, 330 West 42nd Street, New York City. 396 pp. $4.50.

Following the general principles set by previous volumes, the current survey of American chemistry published for the National Research Council, of which the author, Mr. West, is Director of the Research Information Service, includes twelve chapters devoted to industrial topics among its total twenty-five chapters. In this edition the chapter devoted to "Biochemistry" has been omitted, although the chapters on "Food" and "Fermentation" discuss several topics in the biochemistry category. Of special interest to the rubber industry is a chapter on "Rubber" contributed by H. L. Trumbull, manager, chemical research division, B. F. Goodrich Company. Dr. Trumbull briefly makes mention of reported progress in rubber technology since the issuance of the previous survey.

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ZINC PIGMENTS FOR RUBBER. Issued by the New Jersey Zinc Company, 160 Front Street, New York City. 40 pp.

With its pages punched to fit a standard size note book this booklet treats with the two classes of zinc pigments produced by the company for the rubber industry, i.e., zinc oxide pigments and zinc sulphide pigments. Properties, characteristics, and uses of each individual pigment brand are discussed. A section is devoted to the specific gravity of these pigments. Charts depicting "rate of cure tests" are also included in the booklet which also contains several technical illustrations. A brief history of the New Jersey Zinc Company is given.

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1935 CHEMICAL GUIDE BOOK. (Eleventh Edition.) Published by Chemical Markets, Inc., 25 Spruce Street, New York City.

Divided into four sections the 11th annual chemical guide includes a combined catalog of chemical firms, a buying guide and directory for chemicals and allied products, a geographical directory of chemical and allied industries, and lists of prices and trade associations. 108 pages have been added to this new edition due to the listing of 153 additional chemicals and 160 new synonyms. Approximately 3500 firms are listed as being members of the chemical and allied industries. The section devoted to prices depicts high and low prices for some 1500 chemicals for the years 1933 and 1934.

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SOCIAL SECURITY—THE GREAT DELUSION. By Allen W. Rucker. in collaboration with N. W. Pickering. Issued by the Farrel-Birmingham Company, Inc., Ansonia, Connecticut. 7 pp.

In this eleventh edition of a series of booklet-editorials discussing moot questions of the day, the co-authors devote their attention to an attack on the Wagner-Lewis Bill now pending before Congress. In their opinion the payroll tax incorporated in the bill would actually reduce purchasing power, raise prices and increase unemployment. Since the payroll tax could not be absorbed by industry manufacturers would either have to reduce wage rates or increase prices, thus reducing demand and employment. A program for social security is suggested by the authors in the booklet.

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FROM THE FAR CORNERS OF THE EARTH. Published by the Western Electric Company, 195 Broadway, New York City. 72 pp.

Raw materials of wide and varied nature used in connection with telephones and the wide-flung telephone system, are discussed, described and illustrated in this third and enlarged edition furnished by the Western Electric Company for the benefit of its customers and clients. Profusely illustrated the book graphically depicts the production, transportation and use of dozens of raw materials. The story of rubber in the telephone is well told in three pages.

MECHANICAL MOLDED RUBBER GOODS
We Solicit Your Inquiries
THE BARR RUBBER PRODUCTS COMPANY
SANDUSKY, OHIO

TECHNOLOGY AND INDUSTRIAL USES OF WYOMING BENTONITE. (A series of bulletins). Issued by the American Colloid Company, 363 West Superior Street, Chicago, Illinois. 69 pp. 8½ x 11 inches. Bound in flexible loose-leaf cover. $2.00, including supplements supplied for one year.

Although Bentonite is not a new material, only scattered data on its properties and uses have been heretofore available. This series of bulletins covers the early uses of Bentonite together with its properties and commercial applications in various fields. Known for its swelling properties the material has found many uses in forming pastes and gels, in soaps, insecticides, cosmetics, etc., and in stabilizing emulsions. It has been used with latex and rubber for making emulsions, adhesives, and sizings. A number of domestic and foreign patents mention it in combination with other materials. A list of these patents, briefly abstracted, is included in this series of bulletins.

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PROPERTIES OF DU PONT RUBBER CHEMICALS. (Laboratory Report No. 187.) Issued by the Rubber Chemicals Division, E. I. du Pont de Nemours & Company, Inc., Wilmington, Delaware.

For the convenience of its customers DuPont has issued this booklet which lists the properties of its varied line of rubber chemicals including accelerators, antioxidants, latex chemicals, and miscellaneous rubber chemicals such as Barak, Sperzo and Retarder B. A page is devoted to each chemical on which is included such information as its specific gravity, melting point, physical form, chemical definition, vulcanization characteristics, dispersability, stability, appearance, and uses. The patents protecting each chemical are also listed at the bottom of each descriptive page. This booklet belongs on the desk of every rubber technologist and engineer who works with rubber chemicals.

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THE CHIEF CAUSE OF THIS AND OTHER DEPRESSIONS. By Leonard P. Ayres. Published by the Cleveland Trust Company, Cleveland, Ohio. 52 pp.

Tracing the present depression to economic changes growing out of the World War, Colonel Ayres, noted business economist and vice-president of the Cleveland Trust Company, points out in this economic monograph that although 1935 is the sixth year of depressed conditions it is also the twenty-second year of the *causes* leading to them. The most important conclusion of the study, prepared in response to a senatorial committee request, is summed up in this statement: Trade cycles are chiefly caused by changes in the volume of purchasing of durable goods by business enterprises, actuated by changes in the prospects for profits. This conclusion is said to have been adduced from the collection of new data covering the production and distribution of goods.

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TAG DIAPHRAGM VALVES. Bulletin No. 1117. Issued by the C. J. Tagliabue Manufacturing Company, Park and Nostrand Avenues, Brooklyn, N. Y. 16 pp.

With the valve described as the "business end of the control system" this attractively-printed booklet discusses and illustrates the several types of diaphragm valves manufactured by the company. Specifications, charts and diagrams of these valves enhance the value of the booklet for factory managers and production engineers. Illustrations of Tag diaphragm valves in several actual installations are also included in the booklet.

Editorial Comment

Another Labor Battle?

UNDER the terms of the Wagner Labor Relations Bill, which became a law on July 5, there are five separate and distinct things which employers may not do, including interfering with any attempt on the part of employees for the purposes of collective bargaining. Labor rejoices particularly in this portion of the law, but it is safe to assume that the constitutionality of the terms by which employers must abide will soon be given the "supreme" test, i.e., it will probably be one of the first measures to be considered by the Supreme Court at the opening of its Autumn term.

There is a strong feeling among leading executives of Akron rubber factories that the Wagner Law is as unconstitutional as was the N.R.A. With this conviction in their minds it is positive that a court test will be the fate of the recently passed bill, that is providing the rubber union locals determine to push it to a test. Labor leaders in Akron still feel the nullification of the N.R.A. since it wiped out the possibility of forcing Goodrich and Firestone to hold employee elections under government supervision to determine whether such employees preferred an "inside" or an "outside" union to do their collective bargaining.

That another labor battle is brewing in Akron due to the passage of the Wagner Law seems to be evident from the statements of labor leaders who claim that they are anxious to prove that various union locals represent a majority in factories under their jurisdiction. (Another factor of the new law is that it provides that an employees' group which can prove that its membership includes a majority of a company's employees shall have the right to bargain for all.) This question of majority has been a sore spot with rubber labor organizers for some time and it is certain that they will grasp at the opportunity of forcing an election early next Autumn.

Although it is too early to predict to what proportions this new labor battle will grow, we visualize a definite attempt to force rubber manufacturers into line on the part of the American Federation of Labor, with equal resistance from the manufacturers, from which you can draw your own conclusions.

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Avoid a Price War!

LEADING rubber manufacturers gathered in Akron late in June for the pre-published intention of considering another price increase on tires and tubes. Predictions were made prior to the meeting that an increase of some 20 per cent could be expected, because of increased cost of raw materials and taxes. Unfortunately for the industry, however, that meeting ended in the decision to grant dealers extra discounts, with some manufacturers permitting their dealers to give free tubes away with each tire. This decision to cut prices, rather than to increase them, was due to chain stores slashing prices for the annual July Fourth sales.

We hasten to amend our remarks: the decision of the manufacturers to grant special discounts and free tubes was to extend only through the holiday, although some extended it a few days beyond the Fourth. However, if history repeats itself, dealers will be loath to surrender their special discounts and the lowered prices will be continued for an indefinite period. If this is the case we fear the commencement of still another of those disastrous price wars which are so evidently reflected in the manufacturers' balance sheets at the end of the year. It is but a short step from "special discounts" to a price war, with each tire maker striving to outdo his competitor.

Tire manufacturers and wholesale distributors no longer need fear the wrath of the government if they embark on a price war, but we sincerely hope that they recall the dozens of lessons taught by previous conflicts, and not only withdraw the special concessions permitted over the Fourth, but actually put their heads together again soon and follow their original intention of increasing prices—and hold them.

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It Can Be Done!

BECAUSE of differences pertaining to the proper definition and practice of "seniority rule" the union local of the General Tire & Rubber Company voted a walk-out last month. According to reports the local was overwhelmingly in favor of the walk-out, while the management seemed adamant in their attitude.

One week later the same union members meeting in session voted to rescind their strike threat, with only three dissenting votes, once again according to report. Why? Because Hugh D. Friel, a conciliator sent by the Department of Labor, effectively proved to the union members that it was not fair to attempt to negotiate any labor point with an employer while "a gun was pointed at his head." The proof of the pudding in this instance is found in the fact that shortly after the strike vote was rescinded General officials conferred with union officials on seniority rights, with a favorable agreement expected momentarily.

Although Mr. Friel did not refer specifically to the General union he stated recently: "It is a fact that professional agitators exist. It is peculiar that General Tire, having only one organization representing its employees, should have this trouble." But professional agitators or not, the recent controversy proves that labor and management can negotiate peacefully, if labor doesn't wag its strike stick so quickly. Management resents being coerced.

CURRENT • NEWS of the Rubber Industry

JULY, 1935

GOODYEAR TO ABSORB KELLY-SPRINGFIELD

Reorganization Committee Reports Majority of Security Holders Are in Favor of the Modified Plan as Proposed by Goodyear Tire & Rubber Co.

Judge W. Calvin Chestnut, of the United States District Court, in Baltimore, Maryland, under whose jurisdiction the Kelly-Springfield Tire Company's receivership has been conducted, was assured by the reorganization committee at a hearing held in Baltimore on July 2 that the committee had received assents to the reorganization plan agreed upon between various stockholder and bondholder sub-committees from the majority of interested parties. Judge Chestnut was also told, according to reports from Baltimore, that when final transactions are completed Goodyear intends to continue operation of Kelly-Springfield at the Cumberland, Maryland, factory, as an independent corporation.

The modified plan agreed upon, after hearings held on June 20 before the Baltimore Court, calls for the following distribution:

(A) $80.00 cash per hundred dollars principal amount of notes.

(B) $13.00 cash per share and two shares of Goodyear common stock for each five shares of Kelly preference stock.

(C) 62 cents in cash per share of Kelly common stock and one share of Goodyear common stock for each 25 shares of Kelly common stock.

(D) A possible further distribution to Kelly common shareholders in the event of any overplus of funds remaining from $251,227.28 earmarked for general creditors, other claims, and expenses and/or in event of any recovery from a pending suit for recovery of income taxes.

(E) No fractional shares of Goodyear common stock will be issued, but adjustment of fractions will be made in cash on a basis of $20.00 per share of Goodyear common stock.

The original Goodyear plan of reorganization, under Section 77B of the Federal Bankruptcy Act, which was vigorously opposed by a committee of preferred and common stockholders of Kelly-Springfield stock, headed by Robert J. Levy, of 165 Broadway, New York City, called for the acquisition of the Kelly factory at a cost estimated at approximately $4,422,000. Noteholders were to receive 75% of the par value of their notes in cash; preference stockholders would get $10 in cash and two shares of Goodyear common for each five shares of Kelly common stock; while common stockholders were to have been given $1.00 a share in cash and one share of Goodyear common for each 25 shares of Kelly-Springfield common.

One of the principal objections to this plan made by committees representing bondholders was that holders of notes and bonds should receive at least 85 cents on the dollar for their holdings, rather than the 75 cents offered by Goodyear. The compromise calls for a payment of 80% on the dollar for each note held.

When the various reorganization plans were presented before Judge Chestnut on June 20 at Baltimore, and opposition was registered by the several interested parties to the plans proposed by each group, the presiding justice ordered a recess of several hours duration and informed opposing counsel to conduct negotiations with a view to reaching a compromise, if possible.

During the negotiations suggested by Judge Chestnut, at which Newton D. Baker represented Goodyear, the terms of agreement were drawn up which were presented soon thereafter to the court, and which were later approved by the majority of security holders, according to the report made by the reorganization committee on July 2.

The completion of details with regard to the absorption of Kelly-Springfield by Goodyear will probably take several months.

Murals of Rubber Industry

Work is shortly to begin on the construction of an elaborate new barroom in the Hotel Portage, Akron, Ohio, recently placed under new management. A feature of the barroom will be a series of mural decorations depicting the history of the rubber industry, according to present plans. Although specific plans for the murals have not been announced it is believed they will trace the history of the industry from the discovery of vulcanization by Charles Goodyear up to the present.

REPORT LOWER VALUES IN RUBBER PRODUCT IMPORTS

The value of rubber products imported during the first four months of 1935 was $476,417 against $622,054 in the corresponding period of 1934, a decline of 23.4%, reports the Department of Commerce. That this decline in value does not indicate a like reduction in quantity is shown by the fact that, on items reported by quantity as well as price ($295,395 in 1935 and $381,126 in 1934) there was an average decline in price of 23.3%, and an actual increase of 1% in quantity.

If the same decline in price were assumed to have occurred on items not reported by quantity in the two periods, the quantity of such imports would show a decline of only 2%, although their value this year was but $181,022 against $240,928 in four months of 1934, a decline of 24.8%.

The indication, therefore, is that the volume of total imports is about the same as last year, and that lower declared values in United States currency are responsible for the reduction in total value of imports of rubber and gutta percha manufactures.

LABOR STRIKES AGAIN RAMPANT IN INDUSTRY

General Tire Workers Rescind Vote After Approving a Walkout While Violence Flares as Pickets Keep Watch at Wilson and Aetna Plants

Labor strikes are again rampant in the rubber industry. General Tire & Rubber Company, which experienced a walkout of some 1500 workers last year, averted a repetition of that walkout last month by the narrowest of margins. Strikes are in process at the factories of both the Wilson and Aetna rubber companies.

Claiming that seniority clauses were not being respected, as well as registering objection to adjustments in rates for certain operations, the General union voted heavily in favor of a walkout at a meeting held on Sunday, June 16. William O'Neil, Firestone president, emphatically stated at that time that: "There has never been any change in our policy on seniority or in our attitude in negotiating with employees . . . We are adhering strictly to the letter of the agreement made with our employees about a year ago."

A most unusual move was made by the General union when, at a meeting held on Sunday, June 23, it rescinded its strike vote upon recommendation of Labor Conciliator Hugh D. Friel, sent to Akron to conduct negotiations to settle the difficulties. Mr. Friel convinced the union voters that General's management was not inclined to negotiate with the union executives while "a gun was pointed at it." At last reports satisfactory negotiations were expected to be concluded shortly.

On June 17 more than 100 workers of the Wilson Rubber Company, Canton, Ohio, walked out on strike and immediately established a picket line around the factory. The strike was called after a discharged employee was not rehired by the management, according to George Roberts, an A. F. of L. organizer located in Akron. The management is making no move to operate the factory until all differences are settled.

Violence is marking the strike at the Aetna Rubber Company, Ashtabula, Ohio, called on June 18 by the union local because it had been unable to negotiate an agreement with the management and because of seniority differences. Several pickets have already been arrested for throwing stones at workers entering the factory. The management claims that only 50 workers are involved in the strike, while a greater number are still at work.

As yet there are no signs of labor unrest at Goodyear, Goodrich or Firestone, although their labor truce was dependent upon the action of the courts in the "employee election" case which was nullified by the N.R.A. collapse.

However, executives of these factories believe that union labor will soon seek to test the strength of the new Wagner Labor Relations Law.

TWO R.M.A. DIVISIONS ANNOUNCE PRACTICES

Two divisions of the Rubber Manufacturers Association, i.e., the Hard Rubber Division and the Rubber Footwear Manufacturing Industry, announced on June 27 that they had gone on record as approving in principle a continuation of wage and hour policies with respect to the basic 40-hour week, minimum wages, and abolition of child labor.

The Hard Rubber Division embraces thirty companies with an annual wholesale value of sales amounting to approximately nine million dollars. Under the now-defunct NRA code, wage and hour provisions were carefully observed and the members of the Division feel that both practices should be continued on a voluntary basis in fairness to their employes as well as themselves.

A feeling akin to that made public by the Hard Rubber group was expressed by members of the Rubber Footwear Manufacturing Industry at a recent meeting at which time a resolution was unanimously adopted to the effect that rubber footwear manufacturers will also continue to observe practices of wages, hours, and child labor limitations instituted by the former code. The following companies adopted the resolution:

Beacon Falls Rubber Shoe Co., CamBridge Rubber Co., Converse Rubber Co., Endicott Johnson Corp., Firestone Footwear Co., Footwear Division of the B. F. Goodrich Co., Goodyear Glove Rubber Co., Goodyear Rubber Co., Hood Rubber Co., La Crosse Rubber Mills Co., Lambertville Rubber Co., Mishawaka Rubber & Woolen Mfg. Co., Phillips-Baker Rubber Co., Servus Rubber Co., Tyer Rubber Co., and the United States Rubber Company. These manufacturers operate factories in eight separate states, and produce rubber footwear the annual wholesale value of which is approximately $50,000,000.

The action of the rubber footwear division is all the more significant in view of the fact that in the manufacture of rubber footwear, labor represents more than one-third of the manufacturing cost, a much higher proportion than is represented by labor in most other products.

In connection with this policy of maintaining wages and hours, it is interesting to note that at the present time, the wholesale prices of rubber and canvas rubber-soled footwear are lower than their average prices for the past five years. These low prices have been achieved despite the fact that the price of crude rubber is four times as high as it was three years ago, and the price of cotton, the other principal raw material used in the manufacture of rubber footwear, is more than three times as high, including the processing tax, as it was three years ago, and despite the fact that labor costs have risen appreciably.

Of equal significance is the fact that the quality of rubber footwear has been steadily improved through research, and is now better than it ever has been.

Await Carbon Black Decision

Carbon black manufacturers, with interests in the Panhandle section of Texas, are awaiting the announcement of rules regulating the production of black in that territory from the Railway Commission which has been empowered with the authority to set such regulations. The Commission, which must render its report prior to August 1, has been holding a series of hearings to determine the allocation of gas used in carbon black production.

Tire Life Increased

According to statistics compiled by the research department of the General Tire & Rubber Company the life of an average tire today is two and a half years, as compared with a life of about a year and a half a dozen years ago. This life increase is noted despite the fact that tires are being driven much farther each year than was the case in 1923. Incidentally, tires have been decreasing in cost since 1923 until they now cost only two-thirds as much as they did then, concludes the General Tire report.

TIRE PRICES REDUCED TO MEET COMPETITION

Because chain store organizations refused to call off their "special sales" in connection with the July Fourth holiday, rubber manufacturers meeting in Akron on June 27 decided to lower prices to meet the unexpected competition, although the meeting is said to have originally been called to consider another price raise.

According to reports from Akron, list prices are not affected but two discounts of 10% each from the list were granted to dealers. Some manufacturers also permitted their dealers to give a free inner tube away with each tire purchased. Most of the special terms granted applied only up until the Fourth, but others were to have continued for the entire week of July 1.

Prior to the reports from Akron with respect to the special allowances and tire price reduction, John J. Watson, president of the Lee Rubber & Tire Corporation, Conshohocken, Penna., stated that a general advance of at least 20% in tire prices would be shortly effected. He described this increase as a "prime requisite" of the industry because of continued increased cost of raw materials and labor. Taxation, too, was cited as still another pertinent reason leading to increased prices. Mr. Watson also stated that Lee would announce increased prices "within two weeks" irrespective of what action was taken by other manufacturers.

It is believed that a policy of higher tire prices will be adopted by the majority of rubber manufacturers on or about July 15 or August 1.

OTIS FILES TWO SUITS AGAINST B. F. GOODRICH

Two suits, filed on July 5 and 6, respectively, by Otis & Company, New York financial house, against the B. F. Goodrich Company, were scheduled to be given a hearing on July 8 in the Akron Common Pleas Court. The first suit asked the court to require Goodrich to open its books to the bankers in advance of the date set for a stockholders' meeting on the grounds that Otis & Company had insufficient time for examination prior to the meeting, at which approval of the Goodrich new mortgage bond program will be asked, while the second suit would compel Goodrich to furnish the requested data under an underwriting contract signed some time ago.

Later: Judge Arthur W. Doyle, of the Akron Common Pleas Court, with the consent of Goodrich, granted the Otis demand. Full details will be published in the next issue.

RAYON FABRIC RIGHTS GRANTED TO FIRESTONE

The recently-organized American Rayon Corporation, with a factory in Riverton, New Jersey, headed by William Furness, originator of the Furness Process of cuprammonium rayon making, has entered into contracts with both the Standard-Coosa-Thatcher Company, cotton yarn spinners and mercerizers, and the Firestone Tire & Rubber Company, for the development in raw cotton, cotton yarns, and automobile tire cord in connection with the use of a new chemical produced by Mr. Furness, according to the *Daily News Record*.

Although no announcement has been made by any of the interested parties it is believed the new chemical makes possible a process which incorporates a treatment that can be given to raw stock, cotton yarn or fabric. Some believe that the process might be similar to mercerizing since such action rounds out the cotton fibres and gives them a silky appearance. Others are of the opinion that it is a cuprammonium treatment with which process Mr. Furness is well acquainted.

According to one rayon technician, the process might consist of running the yarn or fabric through cuprammonium solution which would tend to attack the cellulose in the cotton. It would first make the outer surface gelatinous. If the action was arrested at that point and the material allowed to harden the yarn or fabric might take on a lustrous surface and the partial fusing of the fibres make for much greater strength.

It is said that cuprammonium solution would be the best to use for this sort of purpose inasmuch as other methods of reducing cellulose to a liquid or plastic state have solvents in them which would evaporate.

Discuss Restriction Scheme

The reasons leading to the inauguration of the international restriction scheme and the operation of the plan under the International Rubber Regulation Committee are discussed in two articles, appearing in the June and July issues of *Asia*, by E. G. Holt and Warren S. Lockwood, both associated with the Department of Commerce. Mr. Holt is assistant chief of the Leather and Rubber Division, while Mr. Lockwood, at present, is serving as assistant trade commissioner of the Foreign Commerce Service and was formerly stationed at Singapore and Batavia. Excellently written, both articles present a clear picture to the layman as to the whys and wherefores of restriction.

Palestine Rubber Factory

Plans have been completed for the erection of a factory in Palestine for the manufacture of electric cables including insulated and weather-proof wires, as well as a general line of rubber products. The factory will be occupied upon completion by the Palestine Electric Wire Company, Ltd., and will be located in the Haifa Bay district.

France Changes Rubber Rules

The French marking of origin requirements on certain rubber products have suspended in some instances and altered in the case of others, including tires and tubes, according to American Consul E. A. Plitt, stationed at Paris. The decrees effecting these markings were officially in operation as of May 12.

RUBBER COMMITTEE D-11 RENDERS ANNUAL REPORT

Committee D-11 on Rubber Products, of the American Society for Testing Materials, rendered its annual report on Wednesday, June 26, during the 38th Annual Meeting of the Society, held in Detroit the week of June 24.

Three proposed testing standards were submitted and will be published as tentative. It has seemed advisable to the Committee to revise the original standard methods of physical testing of rubber products in a comprehensive manner and it is proposed to do this by removing from the Standard Methods of Physical Testing of Rubber Products (D 15-32) the portions which refer to particular types of tests, putting these in separate tentative methods, and to revise Methods D 15 so that they will include only test requirements of general applicability.

The revised general methods of testing are intended to apply to soft vulcanized rubber compounds such as are used for the lining and cover of hose and belting, for carcass and tread of tires, and for a wide variety of molded or extruded rubber products. They do not apply without modification to the testing of that material ordinarily classed as hard rubber.

Only instructions for preparation of test specimens of rubber products and the general requirements for approved testing are included in these general methods. Standard methods for individual test procedures are provided separately or in specifications covering a particular material.

New requirements for tension testing of vulcanized rubber and test methods for adhesion of vulcanized rubber were also recommended as new tentative standards, the former include standard procedures for determining stress-strain properties, tensile strength, ultimate elongation and permanent set of the usual grades of soft vulcanized rubber.

The adhesion test methods are suitable for use in measuring the strength of adhesion between plies of fabric bonded with rubber or, in many cases, the adhesion of the rubber layer in articles made from rubber attached to another material.

The various D-11 sub-committees have a large amount of test and research work under way, many of the programs of work being outlined in the 1935 D-11 report.

EXPORT VALUES RISE AS QUANTITY DECLINES

On an average unit prices of rubber products exported from the United States during the first four months of 1935 increased by 11% over the similar period of 1934, although the quantity of exports for the same comparison actually declined 0.4%, according to the Department of Commerce.

There are 27 items reported in units of quantity as well as value. Analysis shows that prices were increased on 19 of these, and reduced on 8, as compared with the same period last year. All but one of the items on which prices were reduced enjoyed an increased volume of business, and this increase was enough to more than offset the decline in price, resulting in an increased total value of exports for each item. The one exception was solid tires for motor vehicles, and the decline in volume was because this type of tire is becoming obsolescent.

Only 6 of the 19 items on which prices were increased enjoyed an increased volume of business in units, and only 3 of the remaining 13 enjoyed sales high enough to result in an increased total value of trade. Each of the other 10 items on which prices were increased shows a reduced trade in units and also in total value.

The 6 items in which the quantity of trade increased despite higher prices were rubber hose, reclaimed rubber, heels, rubber gloves, erasers, and casings and tubes other than for motor cars.

The 7 items in which the quantity increased enough to more than offset reduced prices were: rubber boots, canvas rubber-soled shoes, rubber packing for machinery, rubberized piece goods except auto cloth, balloons, electrical hard rubber goods, and scrap rubber.

The 3 items in which increased prices more than offset the reduction in volume of trade were casings for passenger cars, inner tubes for motor vehicles, and rubber belting.

The 10 items in which the reduced volume of trade more than offset the price increases were truck and bus casings, solid tiring, rubber shoes, rubber soles, rubber and friction tape, rubberized auto cloth, water bottles and syringes, bathing caps, rubber bands, and rubber thread. The one remaining item, solid tires for motor vehicles, showed a decline both in price and quantity.

Firestone Mill Starts Work

Operations at the Firestone Cotton Mill, at Gastonia, North Carolina, purchased by the Firestone Tire & Rubber Company from the Manville-Jenckes Corporation two months ago, were expected to get under way in mid-July. The mill is believed to be the largest tire fabric plant in the world under one roof. H. C. Miller, Firestone vice-president, has been directing the installation of new equipment and the renovating of the mill for the past two months preparatory to its opening as a tire fabric plant. Henry McKelvie is general manager.

DECREASED ABSORPTION NOTED IN CRUDE RUBBER

In the first four months of 1935 world absorption of crude rubber amounted to 332,000 long tons, which compares with 337,000 long tons in the corresponding 1934 period, a decline of 1.5%, according to the Leather and Rubber Division of the Department of Commerce.

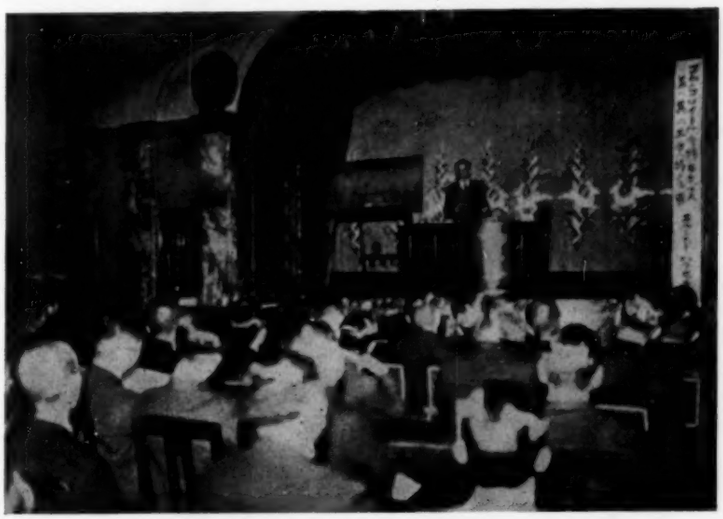
Increased rubber absorption indicating greater manufacturing activity in the January-April period of 1935 compared with that of 1934 was registered in the United States, an advance of 2 per cent; Scandinavian countries, 9 per cent; Czechoslovakia, 39 per cent, and Australia, 75 per cent; while a declining rubber absorption was noted in France, 12 per cent; Germany, 19 per cent; Russia, 9 per cent; United Kingdom, 13 per cent; Canada, 15 per cent; Argentina, 25 per cent; Poland, 34 per cent; Japan, 9 per cent and Mexico, 63 per cent.

Probable reasons for a declining world rubber absorption in 1935 are the national policy of Germany to import less foreign goods and the fact that Soviet Russia is reported using greater quantities of domestic grown rubber and Russian-produced synthetic rubbers.

It is thought also that the higher market prices for the commodity in the January-April period of 1935 compared with the same months of 1934 have influenced a slightly greater consumption of reclaimed rubber and the use of national rubber stocks instead of importation of rubber for immediate requirements.

Japan, it is believed, has encountered higher tariff barriers which have reduced its shipments of rubber footwear to several world markets with a consequent decreased consumption of crude rubber.

E. A. HAUSER ADDRESSES JAPANESE RUBBER INDUSTRY



Dr. Ernst A. Hauser, chief chemist of the Semperit Austro-American Rubber Works, of Vienna, who recently completed a world trip, addressed a joint meeting of the Society of Chemical Industry and the Society of the Rubber Industry of Japan, on March 2nd. Choosing as his subject "Recent Progress in the Rubber Industry" Dr. Hauser stressed the development in the use of latex in replacing rubber solutions in organic solvents for the manufacture of dipped goods. He described several operations in the manufacture of molded products in which latex is used. He also devoted a portion of his lecture to a description of available synthetic rubbers and compared the properties of Duprene with other synthetic rubbers produced in several countries. In closing his lecture Dr. Hauser pointed out that the rubber industry was rapidly becoming part and parcel of the chemical industry, and a knowledge of rubber, in his opinion, should be of value to every chemist. At the conclusion of his address he presented the chairman of the joint meeting with an autographed copy of his recently-published Handbuch der Gesamten Kautschuktechnologie."

LOS ANGELES NEWS

Paul Beebe, chief compounder for the Goodyear Tire and Rubber Company of California, left June 25 for Akron, Ohio, where he will remain permanently in the home plant. Mr. Beebe has been in California since 1928.

D. M. Parrish and Mrs. Parrish of Akron, Ohio, spent a few days early in June in Los Angeles when enroute to Kuala Lumpur (Malay Peninsula) where Mr. Parrish will do research work in reference to latex at the British Institute. Mr. and Mrs. Parrish were accompanied by Mrs. Sarah P. Newton, mother of Edwin B. Newton, well known research chemist now at Kuala Lumpur. Mr. Parrish is a research chemist in the employ of the B. F. Goodrich Rubber Company.

Fifty men attended the regular June meeting of the Los Angeles group of the Rubber Division of the American Chemical Society at the Westland Building in Vernon (a Los Angeles suburb) on Thursday evening, June 13. Dr. I. Drogin of the J. M. Huber Company was the speaker of the evening, following the regular supper. His subject was "An Outline of Carbon Black." The talk dealt largely with the details of manufacture. He stressed, however, the fact that developments in the retort method of production might reasonably be expected due to certain "sweet" gas use restrictions recently imposed in the state of Texas. Attention, he said, was being focused now on the retort process.

Dr. Liang, a professor of chemistry in Sun-Yat Sen University, Canton, China, now doing post graduate work in The University of Southern California, was also introduced.

The group reported two new members since the last meeting. No further meetings will be held until October.

It was announced that the midsummer golf tournament date has not been definitely set but that the tournament might be held early in July or late in August.

For some years meetings of the group have been held in the banquet hall of the Richfield Building in Los Angeles, the new meeting place in Vernon now being chosen because of its central location in relation to the rubber factories.

Charles N. Merralls, president of the California Rubber Manufacturers' Association, has this to say about the best plans for promoting the industry in the future with an eye on the welfare of the employee as well as the employer:

"Good wages with a cash bonus, the latter distributed not only in the sales department but in all departments and apportioned according to tenure and earning base. I would place the minimum of service at which an employee could receive a bonus at two years.

"A bonus should be thought of in the light of an honor badge, something additional earned as the reward of faithfulness and merit. It should not be thought of as actual pay for the work done. The wage paid should be sufficient to square the employer with the employee for the actual labor put into production or sales. The moment a bonus is thought of as pay for labor held back until the end of the year and then given out in a lump sum such bonus loses its inspiring mission.

"The man who enters a race or other competition gets his money's worth before he receives his medal and he would, or should, be happy in the winning. The medal or prize is something additional to give a new and fuller inspiration. A bonus should be like this. It should be the thing that makes life more abundantly worth while. It should be a *plus* item!"

Expect Goodyear Decision Soon

The Federal Trade Commission is expected to render its verdict within the next few weeks with regard to anti-trust charges brought against the Goodyear Tire & Rubber Company with respect to the latter's contract with Sears, Roebuck & Company. Trial Examiner John W. Bennett, who presided over hearings held over a period of more than a year, is understood to have handed in his report to the Commission the members of which will hand down a decision after studying the examiner's report. The case is based on the Commission's complaint that Goodyear's contract with the mail order house gave an opportunity for price discrimination and monopolies in violation of the Clayton anti-trust laws.

British Tire Prices Rise

An increase ranging from 5 to 15% in prices of tires and tubes was announced in the United Kingdom last month. The advance, the third in the last thirteen months, was proportioned as follows: 5% on tires in the light car class; 10% on the standard makes of tires used on the majority of cars; 15% on heavy tires used for trucks and buses. The increase is attributed to higher costs involved in improved tire construction, according to our correspondent.

Pretty-Scheffer Expanding

Officials of the Pretty-Scheffer Rubber Company, Carrollton, Ohio, manufacturers of rubber gloves and bathing caps, have announced an expansion program that includes the erection of a new two-story building for purposes of increased manufacturing space. The addition, which is expected to permit the employment of some 200 workers, is expected to cost between $35,000 and $40,000. Work started on the first of July and is scheduled to be completed early in October. The factory is at present working on two shifts.

Republic to Handle Naphthas

Arrangements have been concluded between Bruce C. Dodd & Company, Akron, Ohio, and the Republic Oil Company, by which the latter concern will handle the sale of industrial naphthas. Less than carload distribution has already been started in the Warren-Youngstown, Canton-Massillon, and Cambridge-Zanesville districts in Ohio. Mr. William Lusch, who has been associated with the oil business for many years, has been added to Republic's personnel to develop the sale of industrial naphthas. The Dodd company operates as industrial naphtha consultants.

Expanding Dryden Factory

Dryden Rubber Company, 1014 South Kildare Avenue, Chicago, is adding some 15,000 square feet of manufacturing space to their present space. Current plans call for the installation of new equipment, including mills, tubing machines and presses, which will increase manufacturing capacity some 33⅓ per cent, according to George B. Dryden, president. The company specializes in mechanical rubber products made to specification, and has developed several new materials to meet requirements.

Obituaries

Maxwell M. Kahn

Maxwell M. Kahn, president of the Maxwell Rubber Products Corporation, of Newark, N. J., died suddenly last month after a brief illness. The company manufactures a general line of toys and other molded rubber products, and has been headed by the deceased for the past four years. Mr. Kahn was born in New York City in 1886, was educated in local public schools, and matriculated at Columbia University which awarded him an A.B. degree in 1906. He has been associated with the N. Y. Insulated Wire Company, Brunswick-Balke-Collender Company, Kelly-Springfield, Overman Cushion Tire Company, and was vice-president and factory manager of the Raritan Rubber Company from 1926 to 1931. He leaves a widow.

Adolph Schlosser

Adolph Schlosser, superintendent of the box factory of U. S. Rubber Products, Inc., Naugatuck, Conn., died June 29, at Waterbury General Hospital. A native of Germany, he settled in Naugatuck 35 years ago and had become very active in local Republican politics, serving as a member of the Board of Warden and Burgesses. He became superintendent of the box factory when it was first acquired by U. S. Rubber during the World War. Mr. Schlosser is survived by his wife, a daughter, two sons, five brothers and two sisters.

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Names in the News

W. C. BRAY, manager of the truck and bus tire sales department, B. F. Goodrich Company, Akron, attended the annual meeting of the Society of Automotive Engineers at White Sulphur Springs, Virginia, which started Monday, June 17.

DR. J. S. MILLARD, industrial physician, Goodyear Tire & Rubber Company, Akron, was elected president of the Akron Exchange Club last month. The Doctor is now on a world tour with President PAUL W. LITCHFIELD.

GEORGE OENSLAGER, research chemist, B. F. Goodrich Company, sailed from New York on June 26 for a 10-week cruise of the countries bordering the Mediterranean. He is with a group of classical scholars on a pilgrimmage to the country of the poet Homer.

DR. H. N. WHITFORD, crude rubber expert associated with the Rubber Manufacturers Association, returned early this month from an extended stay in the Middle East. He left this country in May of 1934.

HERMAN W. GRAHAM, manager, merchandise distribution, Goodyear Tire & Rubber Company, completed 25 years of service with Goodyear on June 20. A ceremony was held in his honor at which he was presented with a service pin and a $250 gift from the company.

K. D. SMITH, technical superintendent, tire division, B. F. Goodrich Company, Akron, warned that new materials or new combinations are needed for tire construction during a lecture on "The Tires" before the American Society for Testing Materials at Detroit late last month.

GEORGE M. KRYDER, manager, truck and bus division, Firestone Tire & Rubber Company, Akron, was presented with a 20-year service pin and watch last month. He has been in his present post for the past ten years.

E. D. WACKER has been named assistant general sales manager for the C. J. Tagliabue Manufacturing Company, of Brooklyn, N. Y. He has been associated with the company for the past eleven years, and will contact jobbers in his new post.

C. M. PIPER, one-time general sales manager for the Fisk Tire Company, and associated with Goodyear prior to that assignment, has been appointed general manager of the automotive materials department of the Johns-Manville Corporation, of New York City.

FRED SCHLUTER was elected president of the Thermoid Rubber Company, Trenton, N. J., at a meeting of the board of directors last month. He had been serving previously as executive vice-president.

G. L. MATTHIAS, general superintendent, mechanical division, B. F. Goodrich Company, Akron, delivered a paper before the annual convention of the International Association of Cost Accountants on June 26 at Boston. His subject was "The Type of Organization and Plan of Control Leading to Profits."

GEORGE WOODWARD, for many years factory manager of the American Rubber Company's factory of the U. S. Rubber Company, is now factory manager of the North Easton (Mass.) plant of the Stedfast Rubber Company, Inc.

A. W. CARPENTER, manager of testing materials, B. F. Goodrich Company, Akron, was one of four Goodrich engineers attending sessions of the American Society of Testing Materials at the annual convention in Detroit which started on June 25.

JOHN C. EMHARDT, formerly associated with S. Blumenthal & Company, as chief chemist, has been named factory manager of the Cotex Corporation, Newark, N. J., manufacturer of rubber-coated products.

WALTER L. TANN has joined the engineering department of Farrel-Birmingham Company, Inc., Ansonia, Connecticut. For the past eight years he has been connected with the engineering firm of Peter Clark, Inc.

J. E. GULICK, plant superintendent of the Canadian Goodrich Company, Ltd., Kitchener, Ontario, Canada, has been named a director of that company. He was formerly staff superintendent of the Akron factory's tire division.

T. J. BRADY, formerly connected with the Accurate Tool Company, Detroit, has been appointed to handle the sale of grinding wheels in the Detroit district for U. S. Rubber Products, Inc.

C. E. REISS was re-elected president of the Eclat Rubber Company, Cuyahoga Falls, Ohio, at a meeting of the board of directors on June 20. He is also a member of the board.

ROGER FIRESTONE, youngest son of Harvey Firestone, Sr., chairman of the board of the Firestone Tire & Rubber Company, was awarded the Princeton Cup for Sportmanship last month. He is the 5th son of Mr. Firestone to be graduated from Princeton University.

W. JOY JAMES, head of the auditing department, Goodyear Tire & Rubber Company, Akron, has been loaned by Goodyear to the State of Ohio to survey current state government methods with a view of reorganizing such methods in the interest of economy.

Morley Made Vice-President

FRANK G. MORLEY

Frank G. Morley has been elected vice-president and general manager of the Canadian Goodrich Company, Ltd., Kitchener, Ontario, succeeding E. S. Sargeant who has been granted an extended leave of absence. The election was announced by the Canadian Goodrich board of directors who also elected J. E. Gulick, factory superintendent, a director. Mr. Morley has been a member of Canadian Goodrich since 1923. He started with Goodrich in Akron in 1916 in the auditing department and was soon appointed Traveling Auditor. His next assignment was in the credit department and was later transferred to the Canadian branch as Credit and Operating Manager. In 1925 he was appointed General Credit Manager of the Canadian Goodrich Company, Ltd., when that company was formed by Goodrich after it had absorbed the Ames Holden Tire and Rubber Company. In February, 1926, Mr. Morley was promoted to Secretary-Treasurer of the company, in which capacity he served until his election as vice-president and general manager.

FRANK FENTON, general superintendent, Miller Rubber Company, was one of several employes named last month to receive 20-year service pins at the December meeting of the Twenty Year Club.

FREDERICK C. KING, recently a graduate from the California Institute of Technology, has been employed as chemical engineer in charge of chemical research work at the Rubbercraft Corporation of California, Ltd., Los Angeles.

CHARLES W. DANIELS was named general sales manager of the Harnischfeger Corporation, of Milwaukee, Wisconsin, last month. He has been associated with the company in various capacities for many years.

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Financial News

FIRESTONE EARNINGS SHOW BIG INCREASE

For the six months ending April 30, 1935, the Firestone Tire & Rubber Company, and subsidiaries, including the Firestone Service Stores, report a net profit of $2,155,084 after depreciation, interest, taxes, Liberian development expenditures, and other charges were deducted. This profit is an increase of $633,339 over the $1,521,745 net profit reported in the similar period last year.

The net profit was equal to 40 cents a share on 1,897,597 shares of $10 par common stock after dividend requirements on 465,975 shares of 6% preferred stock. The net profit in the corresponding period of the previous year was equal to only 6 cents a share of common stock.

Report on the Firestone increase in earnings for the six months period was made by Harvey Firestone, Sr., chairman of the board, following a meeting of the directors at which a quarterly dividend of 10 cents per share was declared on common stock. Common share earnings for the 12-month period last year amounted to 70 cents on a total net profit of $4,154,655. Common share dividends have been on a 40 cent per annum basis for the past three years. Prior to then the dividend basis was one dollar per year per share.

UNITED STATES RUBBER TO REDEEM 1936 NOTES

The United States Rubber Company has announced that it will redeem on September 1 all the series K 6½ per cent notes outstanding. The notes would have been due March 1, 1936. The redemption price is 100½ and interest.

The notes were issued in 1925 to mature serially at the rate of $2,000,000 a year. The balance sheet at the close of 1934 showed as a current liability the March 1, 1935 installment of $1,485,000 then outstanding, less $515,000 purchased for redemption. It also showed $9,577,000 of the notes outstanding, representing maturities from 1936 on, less $423,000 purchased for redemption.

Guaranty Trust Company, New York City, is the redemption agent.

Prior to the announcement regarding redemption of its 1936 notes U. S. Rubber made application for permanent registration on the New York Stock Exchange. The application revealed that on March 11, 1935, the Rubber Securities Company owned a block of 314,000 shares, or 20.31%, of U. S. Rubber's outstanding common stock. The Rubber Securities Company is located in Wilmington, Delaware, having its offices in the DuPont Building, and its holdings are believed to represent all, or most of, the DuPont interests in the common stock of U. S. Rubber.

GOODRICH LISTS BONDS IN REFINANCING STEP

As the first step in its refinancing program, outlined in our previous issue, the B. F. Goodrich Company, Akron, registered $28,000,000 first mortgage 4½% bonds, Series 1960, with the Securities and Exchange Commission on June 29. The new issue will refund outstanding first mortgage 6½% gold bonds due in 1947, and will result in a substantial saving in interest in addition to providing millions of dollars for purposes of expansion.

A meeting of Goodrich stockholders is scheduled for July 16 at which the proposal of the directors will be presented for official approval. Immediately following the registering of such approval by the stockholders Goodrich will proceed with its refinancing program.

Monsanto Files Statement

Monsanto Chemical Company, St. Louis, Missouri, filed a registration statement with the Securities and Exchange Commission last month in which it sought to issue $2,000,000 in 2½% convertible notes. The notes, according to the application, were to be dated May 1, 1935 and were to expire May 1, 1945. The application also provided for 33,333 shares of $10 par common stock to be reserved for conversion at $60 to $100 per share, depending on the conversion date of the notes.

Dryden Rubber Has Loss

Dryden Rubber Company, Chicago, Illinois, reports a net loss of $85,639 for the year of 1934. The company, which manufactures mechanical rubber goods to customers' specifications, reports a better situation in the first several months of the current year, and recently embarked on an expansion of its factory for increased manufacturing space.

Loss for Servus Rubber Co.

For the year of 1934 the Servus Rubber Company, Rock Island (Chicago), Illinois, reports a net loss, after expenses and the deduction of other charges, of $23,335. In the preceding year Servus reported a net income of $41,083.

Form Rubatex Products, Inc.

Rubatex Products, Inc., with New York headquarters at 277 Park Avenue, has been formed to manufacture a gas-expanded rubber similar to sponge rubber but containing entirely different properties. The new company, which is headed by Dr. Dudley Roberts as president and chairman of the board, has already purchased the plant of the Bedford Tire & Rubber Company, at Bedford, Virginia, and is understood to be seeking a second factory. The Bedford factory is a modern two-story brick building, 200 x 60 feet, with manufacturing space of approximately 30,000 square feet. Other executives of the new concern include Frederick W. Peel, vice-president and general manager, and S. E. Kienietz, sales manager. It is stated that Rubatex may be used wherever sponge rubber is used with the exception of cases where absorption is needed since the gas-expanded rubber does not absorb moisture.

Holds Annual Tournament

The Rubber Trade Association of New York, Inc., held its annual Whitmonday Golf Tournament at the Fairview Country Club, at Elmsford, New York, on June 10. Approximately 130 members and guests attended a dinner served at the conclusion of the tournament. Members of the committee in charge of affairs were G. F. Milliken, A. Benedixsen and R. S. Hamilton.

RUBBER CONSUMPTION DROPS 7% BELOW APRIL

Consumption of crude rubber by manufacturers in the United States for the month of May amounted to 41,568 long tons, which compares with 44,714 long tons for April, 1935. May consumption shows a decrease of 7% below April and 3.1% under May, 1934, according to statistics released by the Rubber Manufacturers Association. Consumption for May, 1934, was reported to be 42,918 (revised) long tons.

Imports of crude rubber for May were 26,866 long tons, a decrease of 38.3% below the April figure of 43,545 long tons, and 44% under 47,954 long tons imported in May, 1934.

Total domestic stocks of crude rubber on hand May 31st were estimated at 319,281 long tons, which compares with April 30th stocks of 334,934 long tons and 350,935 long tons on hand May 31, 1934.

The participants in the statistical compilation report 44,375 long tons of crude rubber afloat for the United States ports on May 30th, compared with 37,651 long tons afloat on April 30th and 57,921 long tons afloat on May 31, 1934.

May reclaimed rubber consumption is estimated to be 9,938 long tons; production, 10,223 long tons; and stocks on hand, May 31, 1935, 18,541 long tons. Stocks on hand April 30th, are revised from 20,521 to 18,716 long tons.

APRIL TIRE SHIPMENTS GAIN 22.3% OVER MARCH

Shipments of pneumatic casings for the month of April, 1935 amounted to 5,143,599 castings, an increase of 22.3% over March, and was approximately 15.9% above shipments made in April a year ago, according to statistics released by The Rubber Manufacturers Association, Inc.

Production of pneumatic casings for April was 4,511,735 casings, an increase of approximately 3.8% over March and 5.4% under April, 1934.

Pneumatic casings in the hands of manufacturers, April 30th, amounted to 11,003,237 units, a decrease of 5.8% below stocks on hand March 31st and a decrease of 8.2% under stocks on hand April 30, 1934.

The actual figures are as follows:

PNEUMATIC CASINGS

		Shipments	*Production*	*Inventory*
April,	1935	5,143,599	4,511,735	11,003,237
March,	1935	4,204,131	4,345,581	11,675,268
April,	1934	4,438,378	4,769,980	11,980,732

General Ten-Year Club Picnic

The first annual factory and office picnic of the General Tire & Rubber Company to be held under the auspices of the Ten Year Club was held at Meyer's Lake Park, in Canton, Ohio, on Monday, June 24. A program of athletic and amusement events featured the picnic. More than 7,000 people were in attendance.

New Rubber Goods

Miller Tom Mix Rubber Balls

In addition to its line of Tom Mix inflated rubber toys, the Miller Rubber Company, Inc., Akron, Ohio, is also producing a line of Tom Mix inflated rub-

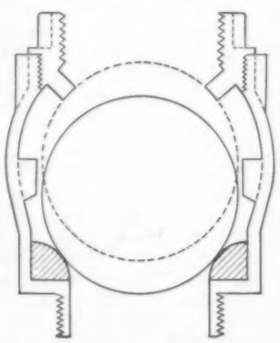
ber balls, made in nine different sizes ranging from 2½ to 8 inches. Three of the smaller sizes are made from salmon red stock and have a picture of Tom Mix and Tony, his famous horse, on one side in color. The next three sizes have an inlaid picture of the pair in one color on one side. The two largest size balls have the inlaid pictures in two colors on two sides.

Strat-O-Sphere Balloons

The Buck Rogers Strat-O-Sphere dispatch balloons are now being made by Thornecraft, Inc., 2518 Montrose Avenue, Chicago. In addition to the balloon, two harmless chemicals and an identification card are packed in an attractive carton. The two chemicals are mixed with water to form an anti-gravity gas with which the balloon is inflated. When inflated the identification card is attached to the balloon by string. Contests for distance flights may be held with these Strat-O-Sphere balloons.

Rife Rubber Seat Valve

A check valve employing a ball and rubber seat is now being manufactured by the Rife Hydraulic Engine Manufac-



turing Company, 75 West Street, New York City, for use under a pressure of 2 feet of water. The novel feature of this valve is the rubber seat and, under certain conditions, a rubber ball. Because of the use of rubber the valve is noiseless in operation. It can be used in air, or in any liquid not injurious to rubber.

Seamless Kantleek Bladders

Under the name of Kantleek, the Seamless Rubber Company, New Haven, Connecticut, has introduced a rubber bladder for various types of inflatable balls. Said to be smooth, uniform and strong, the new bladders are equipped with the Kantleek all-rubber valve. There are no metal or mechanical parts, the inflating needle being inserted into the valve, leaving an air-tight seal when withdrawn.

Compensated Spray Hose

A new type of hose, constructed to resist surge and pulsation, which research has determined to be the main causes of short spray hose life, has been marketed by the Manhattan Rubber Mfg. Division of Raybestos-Manhattan, Inc., Passaic, N. J., under the name of Compensated Spray Hose. Construction

of the new hose comprises two strength members, a braided cord member for longitudinal stresses, and a spiralled strength member for expansion and lateral stresses, both members welded in age-resisting rubber. Special layers of rubber binding, depicted in the accompanying illustration, give additional strength to the hose.

Piqua Novelty Jump Rope

A new type of rubber jump rope, for both the toy and premium fields, has been introduced by the Piqua General Supply Company, Piqua, Ohio. Consisting of a rubber rope, 10 jacks, and a rubber ball, novelty is secured by the hollowing out of each of the wooden handles, inserting in each five of the jacks. It is sold mounted on a display card or in a small box. The novelty item is protected by a patent.

Seiberling's Pluto the Pup

The latest addition to the line of molded "Mickey Mouse" characters manufactured by the Seiberling Latex Products Company, Barberton, Ohio, is that of

Pluto the Pup. It is of solid construction, approximately 7½" long and 4" high. Its body is furnished in a new "china glaze" finish, in either brilliant red or yellow, with features decorated in black and white. Pluto the Pup is being manufactured under exclusive license from the Walt Disney Enterprises (Kay Kamen, Inc.), New York City.

All-Rubber Roller Damper

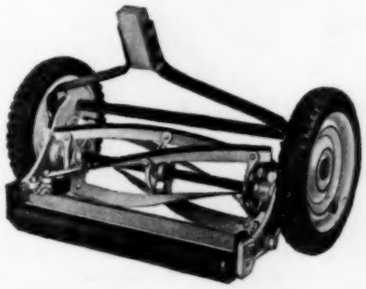
An all-rubber roller damper for business offices and home use has been introduced by the Empire Rubber Company, Ltd., 23 Victoria Street, London, S. W. 1, England. In addition to the roller being made of a specially absorbent type of sponge rubber the container is also made of rubber to prevent slipping. This rubber damper is hygienic, washable and unbreakable, according to its manufacturers. The same company is also producing a standard size rubber blotting pad supplied in several colors. Use of rubber gives the blotter longer life, in addition to other advantages.

Gillette Lightweight Tire

In keeping with the trend toward lighter bicycles, the Gillette Rubber Company, of Eau Claire, Wisconsin, has introduced a new lightweight tire, 27 x 1.50, termed the Gillette Wire Edged Cord Tire. It has an inner tube which is seamless and molded to uniform thickness. Punctures may quickly be repaired by the cold-patch method without removing the wheel from the frame.

Rubber-Tired Lawn Mower

The E-Z Wheel Lawn Mower, manufactured by the E. T. Rugg Company, Newark, Ohio, is the first mower of its kind to be merchandised with pneumatic tires for easy running and traction. In addition to rubber tires the bumper rod



is rubber-insulated to prevent injury to trees and shrubbery while the mower is in use. Rubber is also used in other parts of the E-Z Wheel Lawn Mower,

adding to its easy and quiet operation, and also reducing breakage to a minimum. Replacement wheels are available.

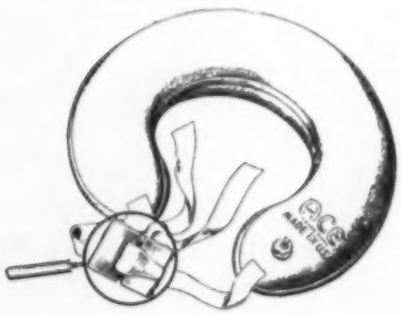
Bartex Tiny Faces

Said to inflate much larger than many other balloons of similar construction the Barr Rubber Products Company, Sandusky, Ohio, is featuring Bartex Tiny

Faces, one of its latest developments in latex balloon manufacturing. When inflated the balloons are passed through a hole in a cardboard base furnished with each one, and then stretched tightly through a slot in the heel of the base, making for an upright balloon. Bartex Tiny Faces are available in a variety of color combinations.

Ace Tubular Swim Belt

An adjustable rubber swim belt, with safety and security features, is being presented by Stanley W. Blum & Associates, of 1261 Broadway, New York City. Strapping made of rubber is vulcanized to the rubber tubing, with enough space left to allow the swimmer free motion of the arms.



A clasp lock, attached to the strapping, adds extra safety assurance. This lock may be opened or closed by the pressure of the fingers. It is made in three sizes, the largest of which is said to carry up to 350 pounds. Available in three colors, in an embossed design, the belt retails at $1.00.

Ball Band Water Sandal

Mishawaka Rubber & Woolen Manufacturing Company, of Mishawaka, Indiana, is featuring a women's water sandal claimed to be equally good for wear on the beach, in swimming, in the locker room, and shower. It is all-rubber in construction, and cannot be kicked off in the water. Among advantages claimed for the new style models are: it floats, washes easily, is equipped with adjustable snap fastener, is sealed to guard against infection, and is protected against stones and hot sand by means of its sponge rubber sole.

Arco Sport and Wading Boot

Included among the boots and sport shoes featured by the Sport Shoe Division of the Arco Tubular Skate Corporation, of

New York City, is a sport and wading boot for fishermen. This model, illustrated, is an ankle-fitting "trout boot" with leather insoles. The close-fitting ankle support allows the boot to brace the ankle firmly and prevents slipping when treading on treacherous rocks in the stream. As an added precaution straps, attached to the knee of the boot, help secure it firmly in place. A cleated rubber sole aids in gripping the bed of the stream and is especially helpful when reeling in fish. Each boot is tested under pressure for leaks.

Lee-Tex Animal Toyloons

Lee-Tex Rubber Products Corporation, 904 Blackhawk Street, Chicago, Illinois, is featuring a new line of rubber novelties termed "toyloons" in the form and shape of animals. In addition to standing up when inflated the "toyloons" may also be suspended by means of cord inserted through loops provided on the back of each animal. The horse and jockey novelty,

illustrated, is an excellent illustration of the complete line which features all-over printed designs. The jockey in the illustration remains upright on the horse's back when the novelty is inflated by means of a small piece of cardboard inserted in the center of it.

J-M Eel-Slip Material

The Research Laboratories of Johns-Manville, 22 East 40th Street, New York City, recently introduced a readily-machined material which has a low co-efficient of friction, even though unlubricated, for use in industrial applications requiring a tough material of this description. It has been termed the Eel-Slip Material and is made of a compound of asbestos, graphite and rubber. It is said to have good rigidity, high tensile strength and long-wearing qualities. It is manufactured in three distinct ways depending upon the application for which it is intended. Water is the best lubricant for Eel-Slip material which is built

up by a felting process under great pressure to the required thickness and then vulcanized. The illustration shows a typical bearing made with the new Eel-Slip Material.

Goodrich "Commercial 15"

Intended for use on half-ton, 112-inch wheelbase trucks, the Safety Silvertown "Commercial 15" has been announced by the B. F. Goodrich Company, of Akron. It is a low-pressure tire, and is said to have the combined advantages of an automobile tire and a truck tire balanced to give greater load-carrying capacity, longer wear, and more protection against bruises. It is sized for a 15-inch diameter wheel,

with standard rim. It is designed as nearly round as possible to give equal air pressure in all directions, providing the greatest amount of deflection, and carries 15 to 24 pounds air pressure, depending on the load. Each "Commercial 15" tire can carry a normal gross load of from 960 to 1350 pounds.

Rubberized Canvas Glider

The Krasni Treugolnik factory at Leningrad, Russia, has announced the completion of a glider made of rubberized canvas. In form it is like an ordinary training machine with wings and fuselage, but it is made of canvas treated with rubber by a special process. The body is constructed of soft canvas tubes. It can be folded into a suitcase and sent to any fixed destination for a flight. It only takes a few minutes to inflate the construction with air, and it is ready for use. The entire glider only weighs about 40 pounds.

NEW ENGLAND NEWS

The Norwalk Tire & Rubber Company, Norwalk, Conn., manufacturer of tires and tubes, batteries, fan belts, radiator hose and other accessories, is waging an aggressive promotion campaign on its "Norwalk Spare Tread," a retreading plan applying to the Norwalk Gold Standard tire line for which special advantages are claimed.

The company claims that every tire carcass is built to outlast two or three treads. A "cushionlock" of heat-resisting compound is placed between carcass and tread to minimize heat and strain. Retreading is done at the factory at a cost equal to about 35 per cent of the cost of a new tire. The process is described as a "complete fitting operation" and the company claims that it differs sharply from ordinary retreading.

A. A. Hall, Norwalk sales executive, reports highly favorable acceptance of the new "spare tread" plan and that new dealer franchise agreements are being signed in areas well outside the territory in which Norwalk tires have been sold. Mr. Hall told THE RUBBER AGE that for the first five months of 1935 business was 15 per cent ahead of the same period in 1934 on tires, while unit sales of batteries increased 19 per cent in the same period.

Alfred D. Phillips, traffic executive of the Fisk Rubber Corporation, Chicopee Falls, Mass., has been elected an officer of the Springfield Traffic Club, an organization of shippers which draws its membership from a wide section of Western Massachusetts.

Rubber footwear plants of U. S. Rubber Products, Inc., in Naugatuck, Conn., shut down July 1 for the annual summer vacation, being scheduled to reopen July 15. No general shutdown was planned in the affiliated plant of the Naugatuck Chemical Company division.

May industrial payrolls in Naugatuck, of which the rubber plants contribute by far the largest proportion, showed an increase of $98,183 over May, 1934, and of $99,775 more than in April, 1935, according to the Naugatuck Chamber of Commerce.

Rubber manufacturers will again hold a prominent position among the industrial exhibitors at the annual Eastern States Exposition in West Springfield during the third week in September. From Chicopee and Chicopee Falls three rubber concerns will be represented, the Fisk Tire Corporation, Federal Rubber Company, and A. G. Spalding & Bro.

Armstrong Rubber Company, Inc., West Haven, Conn., manufacturing tires, tubes and storage batteries, has appointed the Wales Advertising Agency, Inc., New York, to handle its advertising. Newspaper copy of 1,000 lines is being used in 20 Connecticut newspapers to advertise the new Armstrong Air Coaster tires. C. P. Morey is advertising manager of the company.

U. S. RUBBER ATTACKS HOLDING COMPANY LEVY

In a statement mailed to stockholders under date of June 28 the United States Rubber Company, New York City, urged them to write their representatives and senators in Congress protesting against "the imposition of unsound, uneconomic and destructive taxes on corporations." The protest was aimed at the proposed plan to tax corporations which operate as holding companies, such as U. S. Rubber, which is now pending before Congress.

The statement apologized to stockholders for addressing them on a matter pertaining to politics, but stated that the company felt in this case that it was duty-bound to do so because if some of the proposals of the current Administration are enacted into law they will have a "disastrous effect upon the fortunes of your company."

It also cited several instances where policies under the New Deal have affected the affairs of U. S. Rubber including the AAA which "cost this company during 1934 over five million dollars." Increased taxation from several angles also makes it imperative, according to the statement, for every stockholder to communicate with their Congressmen along the lines suggested.

Pointing out that corporations in the United States support a large portion of the entire population the statement claims that "taxing corporations unsoundly is just like 'killing the goose that lays the golden egg,' . . . and any legislation which tends to weaken them is not only short-sighted but suicidal."

Excerpts from two speeches made by Mr. Roosevelt prior to his election as President are included in the statement. In the first of these the President accused the Hoover Administration of being "the greatest spending administration in peace times in all our history . . . and has failed to anticipate the dire needs of reduced earning power of the people." In the second cited speech Mr. Roosevelt stated: "I regard reduction in Federal spending as one of the most important issues of this campaign. In my opinion, it is the most direct and effective contribution that government can make to business."

A suggested form of letter for the use of stockholders was also part of the statement released by U. S. Rubber to be sent to respective representatives in Congress, which states in part: "As this kind of corporate tax is part of the plan for the so-called 'share the wealth idea', and as the redistribution of wealth is only possible through the destruction of capital and is the first step by socialists for the complete overthrow of American institutions and the beginning of the ultimate loss of independence by the American people, I also protest and request you to vote against any and all bills which may be introduced in Congress which have such redistribution for their object."

According to the statement, U. S. Rubber Co. is one of the large corporations singled out in the general classification as one which is un-American although it employed 29,099 persons during 1934 and paid taxes of $7,670,000.

LOOKING FOR A JOB?
See Classified Ads—Page 217

Approve Travancore Factory

The Indian Government has given full approval to plans calling for the the erection of a fully-equipped, modern rubber factory in Travancore, an independent native state in the southernmost part of the country, which is one of the most important rubber-producing areas in India. The program calls for the erection of an electrically-operated factory which will produce tires and tubes, rubber sheet, hose, tiles, rubberized fabrics, and a general line of mechanical rubber goods. All the rubber to be used in the contemplated factory will be secured from local plantations, according to present plans.

Organize New du Pont Division

Effective July 1st the business heretofore conducted by the Pacific R & H Chemical Corporation is to be continued as a unit of E. I. du Pont de Nemours & Company, and will be known as the Pacific Division of the R & H Chemicals Department, E. I. du Pont de Nemours & Company. Offices are maintained in both El Monte and San Jose, California.

TRENTON NEWS

A transfer of property valued at $1,500,000 from the dissolved Michelin Tire Co., Milltown, N. J., to the Michelin Realty Corporation has been filed in the Middlesex County Court. The deed bears $1,500 worth of U. S. Internal Revenue stamps and the document was drawn for the transfer of the Michelin plant and 185 dwellings to the realty corporation. In all the Michelin Realty Corporation is owner of approximately 200 dwellings, three of which are in New Brunswick. The transfer is said to be for convenience and not a sale. J. Hauvette Michelin is president of the realty concern. The charter of the Michelin Tire Company was dissolved on December 8, 1931.

Labor difficulty on July 1 resulted in employes of the calender department of the Lambertville Rubber Company, Lambertville, N. J., walking out. The men of that department asked that a former employee be restored to the room, but the company refused. The concern has declared that when the calender room opens again and the help does not return other employes will be engaged. It is said that trouble developed when a new foreman was placed in charge.

The Lambertville Rubber Company, Lambertville, N. J., has been awarded a contract by the Boston Quartermaster Depot to supply 6,400 pairs of overshoes to the United States Army. The price is $1.91 a pair. Contracts for 284,687 pairs of rubber overshoes were awarded to other rubber concerns. The total cost is $569,000.

The Cotex Corporation, of Newark, manufacturers of rubber coated fabrics, has applied to Federal Judge Philip Forman for an order restoring $1,000 paid for violation of the NRA code. The corporation pleaded guilty recently to 10 charges, involving price regulations, and was fined $100 on each.

Bruce Bedford, president of the Luzerne Rubber Company, Trenton, has been made a member of the advisory board of public works at Trenton to lay plans for public works.

MARKETS

RUBBER—COTTON AND FABRICS—CHEMICALS

NEW YORK, JULY 8, 1935

Crude Rubber

AFTER climbing steadily from a price of 12.18 for spot on the Exchange on June 1st until it reached a 12.81 price on June 17, high for the month, spot rubber did a volte-face, dropping to a 12.20 price on June 27 and touching 12.18 again on July 5. The decline during the latter part of June was due to speculative liquidation. Towards the end of June and early July there was very little buying of rubber because many of the larger factories shut down for the taking of inventory, vacations, etc. Labor trouble at the General, Wilson and Aetna factories also contributed to the price decline, although the difficulty at General has been negotiated since. Although world stocks have not been noticeably affected by restriction there is an optimistic feeling that such stocks will soon be substantially reduced, leading to higher prices. May, 1936, futures are quoted about 75 points above spot, with June, 1936, deliveries quoted at 12.96 on July 5. Quotations in the outside market, Exchange, London and Singapore, follow:

As of July 8

Plantations—

Ribbed Smoked Sheets—			
No. 1, Spot	—	@	.12⅝
August-September	—	@	.12½
October-December	—	@	.12½
No. 2	—	@	.11⅞
No. 3	—	@	.11¾
No. 4	—	@	.11⅝
Thin Latex Crepe	—	@	.12⅞
Thick Latex Crepe	—	@	.12⅞
Brown Crepe, No. 1	—	@	.11⅞
Brown Crepe, No. 2	—	@	.11⅞
Amber Crepe, No. 2	—	@	.11⅞
Amber Crepe, No. 3	—	@	.11⅞
Amber Crepe, No. 4	—	@	.11⅜
Brown Crepe, Rolled	—	@	.10⅜

Latex—

Liquid Latex, per gal.	.48	@	.49

Paras—

Up-River, fine	—	@	.09¾
Acre Bolivian, fine	—	@	.09⅞

Balata—

Block, Ciudad	—	@	.32

LONDON MARKET

Standard Smoked Sheets—Buyers—July 8			
July	—	@	5 11/32d
Oct.-Dec.	—	@	6 1/32d

SINGAPORE MARKET

Standard Smoked Sheets—Sellers—July 8			
July	—	@	5 11/32d
Oct.-Dec.	—	@	5 7/32d

Reclaimed Rubber

Production of reclaims since our last report has continued at approximately the same monthly rate in effect since the beginning of the year. Though prices are unchanged it is understood some users are contracting at present levels for their reclaim needs for the balance of the year in the expectation of strengthened quotations. It appears inevitable that a rise will be announced before many months. Current quotations follow:

High Tensile

Super-reclaim, black	.08¾	@	.09
High Tensile Red	.07	@	.07¼

Shoe

Unwashed	.06½	@	.06¾
Washed	.08	@	.09

Tube

No. 1 (Floating)	.13	@	—
No. 2 (Compounded)	.07½	@	.07¾

Tires

Black	.05	@	.05¼
Black, selected tires	.05¼	@	.05½
Dark Gray	.06¾	@	.06½
White	.09¼	@	.09½
Truck, Heavy Gravity	.05½	@	.06
Truck, Light Gravity	.06	@	.06¼

Miscellaneous

Mechanical blends	.04¼	@	.04½

Scrap Rubber

Demand for scrap rubber continues light with collections by dealers below normal. Reclaimers expect better conditions within the next few months at which time they will again be in the market for supplies. Prices of several grades have moved up slightly, quotations being as follows:

(Prices to Consumers)

Auto tire peelings	ton 17.00	@	19.00
Mixed auto	ton 8.00	@	8.50
Clean solid truck tires	ton 35.00	@	37.00
Boot and shoes	ton 19.00	@	21.00
Arctics, untrimmed	ton 15.00	@	16.50
Inner tubes, No. 1	lb. .07¼	@	.07⅜
Inner tubes, No. 2	lb. .03¼	@	.03⅜
Inner tubes, Red	lb. .02½	@	.02⅝

Cotton

Despite a current stagnation in actual cotton, an improved production outlook, and the poor condition of the domestic textile industry, spot cotton prices have advanced considerably since our last report, hitting a new high of 12.45 on July 3 in the current movement. Low for the month was an 11.80 price on June 12. The steady increase is due to price-supporting factors on the part of the Government which, to date, has succeeded in holding prices up in the face of adverse conditions. The trade is under the impression that the 12-cent Government loans, which have been made available on new crop cotton ginned prior to August 1, will be continued after that date, thus continuing to hold up the price above a 12-cent figure. Business in actual cotton, in early July, was of retail proportions with the basis slightly eased. Cotton futures, despite Government buying for protection of price, have reacted erratically as traders even off commitments from time to time. Quotations for middling uplands on the N. Y. Cotton Exchange follow:

	June 10	July 8		
	Close	High	Low	Close
July	11.57	11.95	11.84	11.95
October	11.26	11.65	11.52	11.64
December	11.28	11.64	11.50	11.62

Tire Fabrics

(Prices Net at the Mill—Process Tax Included)

Peeler, carded, 23/5/3	lb. .34	@	.34½
Peeler, carded, 23/4/3	lb. .35	@	.35½
Peeler, carded, 15/3/3	lb. .32	@	.32½
Peeler, carded, 13/3/3	lb. .31	@	.31½
Egyptian, carded, 23/5/3	lb. .46¾	@	.47¼
Egyptian, combed, 23/5/3	lb. .51¾	@	.52¼
CHAFERS			
Carded, American, 1 1/32"	lb. .35½	@	.36½
Carded, American, 1"	lb. .30	@	.32
LENO BREAKER			
Carded, American, 1 1/16"	lb. .36	@	.37
Carded, American, 1"	lb. .31	@	.32

Sheetings

Count	Width	Weight			
48x40	36 in.	5.50	lb.	—	@ .05¼
40x40	36 in.	6.15	lb.	—	@ .04¾
40x36	36 in.	6.50	lb.	—	@ .04½
48x48	40 in.	2.50	lb.	—	@ .10½
48x48	40 in.	2.85	lb.	—	@ .09
56x60	40 in.	3.60	lb.	—	@ .08⅜
48x44	40 in.	3.75	lb.	—	@ .07¾
44x40	40 in.	4.25	lb.	—	@ .06¾

Ducks

Enameling	lb. .32	@	.37½
Belting and Hose	lb. .34	@	—
Single filling, A grade	lb. .16¾	@	.17¼
Double filling	lb. .17¾	@	.18¼

Closing Rubber Prices on New York Commodity Exchange, Inc.

No. 1 Standard Contract of 10 tons

FROM JUNE 11 TO JULY 8

Date	Spot	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Sales
June 11	12.75	12.71	12.79	12.84	12.90	12.97	13.04	13.11	13.18	13.26	13.35	13.43	13.51		241
12	12.71	12.77	12.85	12.91	12.98	13.04	13.10	13.16	13.23	13.30	13.38	13.46	13.54		458
13	12.75	12.73	12.80	12.85	12.91	12.98	13.05	13.12	13.20	13.27	13.35	13.43	13.51		194
14	12.69	12.71	12.78	12.84	12.90	12.97	13.04	13.11	13.17	13.25	13.34	13.42	13.50		400
15	12.75	12.78	12.83	12.90	12.97	13.03	13.09	13.16	13.24	13.32	13.40	13.48	13.56		77
16	——	——	——	——	——	——	——	——	——	——	——	——	——		——
17	12.81	12.80	12.85	12.92	12.99	13.06	13.13	13.18	13.27	13.34	13.42	13.49	13.57		265
18	12.61	12.61	12.68	12.74	12.81	12.88	12.95	13.02	13.08	13.16	13.25	13.32	13.39		178
19	12.60	12.58	12.65	12.72	12.79	12.86	12.93	13.00	13.07	13.15	13.23	13.31	13.39		153
20	12.50	12.45	12.52	12.59	12.66	12.73	12.80	12.88	12.97	13.02	13.08	13.16	13.25		227
21	12.56	12.52	12.59	12.66	12.73	12.81	12.88	12.95	13.05	13.11	13.17	13.24	13.32		267
22	——	——	——	——	——	——	——	——	——	——	——	——	——		——
23	——	——	——	——	——	——	——	——	——	——	——	——	——		——
24	12.48	12.41	12.48	12.56	12.65	12.72	12.79	12.86	12.90	12.98	13.08	13.14	13.21		350
25	12.35	12.30	12.34	12.41	12.49	12.57	12.65	12.73	12.78	12.86	12.95	13.01	13.07		449
26	12.31	——	12.23	12.29	12.36	12.43	12.51	12.59	12.67	12.75	12.83	12.90	12.97		330
27	12.20	12.16	12.20	12.20	12.39	12.45	12.52	12.59	12.67	12.73	12.80	12.86	12.92		548
28	12.43	——	12.48	12.53	12.58	12.65	12.73	12.81	12.88	12.95	13.02	13.07	13.13		260
29	——	——	——	——	——	——	——	——	——	——	——	——	——		——
30	——	——	——	——	——	——	——	——	——	——	——	——	——		——
July 1	12.38	——	12.40	12.48	12.57	12.63	12.69	12.76	12.83	12.90	12.97	13.03	13.10	13.18	79
2	12.31	——	12.31	12.39	12.47	12.53	12.60	12.67	12.73	12.80	12.87	12.93	13.00	13.08	64
3	12.25	——	12.23	12.31	12.40	12.47	12.54	12.61	12.68	12.75	12.81	12.88	12.96	13.04	80
4	——	——	——	——	——	——	——	——	——	——	——	——	——	——	——
5	12.18	——	12.16	12.23	12.30	12.37	12.44	12.52	12.59	12.66	12.73	12.80	12.88	12.96	130
6	——	——	——	——	——	——	——	——	——	——	——	——	——	——	——
7	——	——	——	——	——	——	——	——	——	——	——	——	——	——	——
8	12.17	——	12.15	12.22	12.30	12.37	12.44	12.51	12.58	12.64	12.71	12.79	12.87	12.94	150

Rubber CHEMICAL Markets

NEW YORK, JULY 10, 1935

[All Quotations F.O.B. Works Unless Otherwise Noted]

ACCELERATORS

Organic			
A-1 (Thiocarbanilid)	lb.	.21 @	.25
A-5-10	lb.	.33 @	.36
A-7	lb.	.53 @	.65
A-11	lb.	.60 @	.75
A-16	lb.	.55 @	.65
A-19	lb.	.56 @	.75
A-32	lb.	.70 @	.80
A-17	lb.	— @	—
Aldehyde ammonia, crystals	lb.	.65 @	.67
Altax	lb.	— @	—
Captax	lb.		
Crylene	lb.	.55 @	.65
paste	lb.	.45 @	.55
Di-Ortho-Tolyguanidine	lb.	.44 @	.47
Diphenylguanidine	lb.	.35 @	.37
Ethylidene aniline	lb.	.45 @	.47½
Formaldehyde aniline	lb.	.37½ @	.42
Guantal	lb.	.42 @	.51
Heptene	lb.	.40 @	—
Hexamethylene-tetramine	lb.	.37 @	—
Lead Oleate, No. 999	lb.	.13 @	—
Witco	lb.	.11 @	—
Lithex	lb.	.18 @	.20
Methylenedianiline	lb.	.36 @	.37
Monex	lb.	3.25 @	—
Oxynone	lb.	.68 @	.80
Phenex	lb.	.50 @	.55
Pipsolene	lb.	3.55 @	4.00
R & H 40	lb.	.40 @	.41
R & H 50	lb.	.40 @	.41
R-2	lb.	1.55 @	1.90
Safex	lb.	1.20 @	1.25
SPDX	lb.	.75 @	—
Super-Sulphur No. 1	lb.		
No. 2	lb.		
Thiocarbanilid, drums	lb.	.21 @	.25
Trimene	lb.	.75 @	—
base	lb.	1.20 @	—
Triphenylguanidine	lb.	.58 @	.60
Tuads	lb.		
Ureka	lb.	.62 @	1.00
Ureka B	lb.	— @	—
Ureka C	lb.	.58 @	.69
Vulcanex	lb.		
Vulcone	lb.		
Vulcanol	lb.		
Z-88-P	lb.	.48 @	.60
Zimate	lb.		
Inorganic			
Litharge, domestic	lb.	.06½ @	—
Magnesia, calcined, heavy	ton	60.00 @	65.00

COLORS

Blacks (See Compounding Materials)

Blues			
Prussian	lb.	.37 @	.39
Ultramarine	lb.	.12 @	.14
Browns			
Sienna, Italian	lb.	.06 @	'13
Umber, Turkey	lb	.04 @	.04½
Greens			
Chrome, light	lb.	.20 @	.30
medium	lb.	.21 @	.31
Chromium Oxide, bbl.	lb.	.22 @	.23
Guignet's Green	lb.	.75 @	—
Reds			
Antimony			
crimson, 15/7	lb.	.48 @	—
sulfur, free	lb.	.48 @	.60
Indian English	lb.	.09 @	.10
Domestic (Maroon)	lb.	.11 @	—
Red oxide, pure	lb.	.10 @	.12
Rub-Er-Red, f.o.b. Easton	lb.	.09¼ @	—
Whites			
Cryptone CB, No. 21	lb.	.06 @	.06¼
Cryptone, No. 19	lb.	.06 @	.06¼
Lithopone			
Albalith, black label—11	lb.	.04½ @	.04¾
Azolith	lb.	.04½ @	.04¾
Rayox	lb.		
Titanium oxide	lb.	.17 @	.19
Titanox B	lb.	.06 @	.06½
Titanox C	lb.	.06 @	.06½
XX—20 Zinc Sulphide, bbls.	lb.	.10½ @	.10¾
XX—86 Zinc Sulphide, bbls.	lb.	.10½ @	.10¾
Zinc Oxide—American Process			
American Azo:			
ZZZ (lead free)	lb.	.05¾ @	.06
ZZ (leaded)	lb.	.05½ @	.05¾
Horsehead Lead Free Brand:			
Special—3	lb.	.05¾ @	.06
XX Red—4	lb.	.05¾ @	.06
XX Red—72	lb.	.05¾ @	.06
XX Red—78	lb.	.05¾ @	.06
XX Red—103	lb.	.05¾ @	.06
U. S. P.—X, bbls.	lb.	.12½ @	.12¾
Kadox, black label—15	lb.	.09½ @	.09¾
Blue label—16	lb.	.08½ @	.08¾
Red label—17	lb.	.07 @	.07¼
St. Joe, black label	lb.	.05¾ @	.06
green label	lb.	.05¾ @	.06
red label	lb.	.05¾ @	.06
Zinc Oxide—French Process			
Anaconda, lead free	lb.	.05¾ @	.06
Anaconda, selected lead free	lb.	.06 @	.06¾
Florence White seal—7 bbls.	lb.	— @	.10½
Green seal—8	lb.	.09½ @	.09½
Red seal—9	lb.	.08½ @	.08½
Yellows			
Chrome	lb.	.15 @	.16
Ocher, dom. med.	lb.	.02¾ @	—

BLACKS

Arrow "Aerfloted" Specification	lb.	.0535 @	.0825
Bone, powdered	lb.	.05½ @	.12½
Carbon, compressed	lb.	.0535 @	.0825
uncompressed	lb.	.0535 @	.0825
"Certified," Cabot	lb.	.0535 @	.0825
Spherons	lb.	.0535 @	.0825
"Disperso"	lb.	.0535 @	.0825
Drop, bbls.	lb.	.05½ @	.14
"Excello," compressed	lb.	.0535 @	.0825
"Fumonex"	lb.	.03 @	.07
"Gastex"	lb.	.03 @	.07
Lampblack	lb.	.07 @	.12
"Micronex"	lb.	.0535 @	.0825
"Supreme"	lb.	.0535 @	.0825
Thermatomic—"P 33"	lb.	— @	—
"Thermax"	lb.	— @	—
United "Dixie" & "Kosmos"	lb.	.0535 @	.0825

COMPOUNDING MATERIALS

Aluminum Flake	ton.	21.85 @	24.50
Ammonia carbonate, lump	lb.	.10½ @	.12
Asbestine	ton	14.00 @	15.00
Barium carbonate (98-100%)	ton	56.50 @	61.50
Barium Dust	lb.	.05 @	.06
Barytes	ton	22.00 @	24.00
Basofor	lb.	.04½ @	—
Bentonite	lb.	.02 @	.03
Blanc fixe dry f.o.b. works	ton	70.00 @	75.00
Calcene	ton	35.00 @	43.00
Catalpo (fact.)	lb.	.02 @	—
Chalk, precipitated			
Suprex white, extra lt.	ton	45.40 @	60.00
heavy	ton	45.00 @	55.00
Clay, Kaolin, domestic	ton	7.50 @	15.00
Aerfloted, Suprex	ton	8.50 @	10.00
Congaree	ton	9.00 @	—
Dark Blue Ridge	ton		
Dixie	ton		
Dixie, Jr.	ton		
Lexington	ton	10.00 @	22.00
McNamee	ton		
Par	ton		
Tensulite		15.00 @	—
Witco	ton	8.50 @	9.00
Cotton Flock	lb.	.10½ @	.18
Glues, extra white	lb.	.28 @	.30
medium white	lb.	.14 @	.19
Kalite No. 1	ton	30.00 @	55.00
Kalite No. 3	ton	40.00 @	65.00
Magnesium carbonate	lb.	.08 @	—
Mica	ton	65.00 @	80.00
Rottenstone (powdered)	lb.	.02½ @	.05
Soapstone, powdered	ton	16.00 @	22.00
Starch, powdered	cwt.	3.56 @	3.76
Talc, domestic	ton	12.00 @	15.00
Pyrax A	ton		
Whiting, commercial	ton	17.00 @	18.00
Columbia Filler	ton	9.00 @	14.00
English Cliffstone	ton	33.00 @	43.00
Sussex	ton		
Witco	ton	15.00 @	—
Wood Flour	ton	18.00 @	30.00
Zinc Carbonate	lb.	.10½ @	.11
Zinc Stearate	lb.	.25 @	—

MINERAL RUBBER

Black Diamond	ton	27.00 @	—
Genasco, solid (factory)	ton	25.00 @	27.00
Hard Hydrocarbon	ton		
Parmr, solid	ton	25.00 @	28.00
Pioneer, MR, solid	ton		
Pioneer-granulated	ton		

SPECIALTIES

Aromatics—Rodo	lb.		
Para-Dors No. 5145	lb.	2.00 @	—
Sunproof	lb.	.35 @	.37½
Sponge Paste	lb.	— @	.80
Tonox	lb.	.56 @	.60

SOFTENERS

Acids			
Acetic, 28%, bbls.	100 lb.	2.45 @	2.70
glacial, USP, bbls.	100 lb.	14.00 @	—
Nitric, 36 degrees	cwt.	5.00 @	6.00
Sulfuric, 66 degrees	ton	15.50 @	16.50
Acids, Fatty			
Laurex	lb.	.15 @	.16
Stearex	lb.	.08½ @	.13
Stearic, double pressed	lb.	.09 @	.14
Alkalies			
Caustic Soda, 76%	cwt.	3.00 @	4.00
Soda Ash, 58% C.I.	cwt.	2.52 @	—
Oils			
Corn, refined, bbls.	lb.	.12½ @	—
Cottonseed, crude	gal.	.093 @	.10
Cycline Oil	gal.	.15 @	.28
Degras (c.l. 100 bbls.)	lb.	.02¾ @	—
Less c.l. (10-25 bbls.)	lb.	.03 @	—
Lots less than 10 bbls.	lb.	.03¼ @	—
Fluxrite	lb.	.05½ @	.06½
Palm Lagos	lb.	.05 @	—
Niger	lb.	.04¾ @	—
Para-Flux	gal.	.17 @	—
Petrolatum, light	lb.	.02 @	.02½
Pigmentaroil, tank cars	gal.	.16 @	—
in drums	gal.	.22 @	.23½
Pine, steam distilled	gal.	.64 @	.65
dest. dist., drums	gal.	.40 @	.45
Rosin Oil, cmpd	gal.	.40 @	—
Rubtack	lb.	.40 @	—
Seedine, c.l.	lb.	.07¼ @	—
Tackol	lb.	.08½ @	.18
Witco Palm Oil	lb.	.05 @	—
Witco Softener (f.o.b. wks.)	gal.	.15 @	—
Woburn No. 8, c.l.	lb.	.06 @	—
Wobonite, c.l.	lb.	.05 @	—
Resins and Pitches			
Pitch, Burgundy	lb.	.07 @	.08
coal tar	gal.	.07½ @	.08
hardwood	ton	25.00 @	30.00
pine, 200 lb. gr. wt.	bbl.	6.50 @	—
Rosin, grade K, 280 lb.	bbl.	5.55 @	—
Pigmentar, tank cars	gal.	.19 @	—
in drums	gal.	.25 @	.27
R. S. L. Resin	lb.	— @	—
Retort Pine Tar, drums	bbl.	12.00 @	13.00
Solvents			
Acetone, pure	lb.	.12½ @	.13½
Alcohol, denatured, methanol, No. 1 bbls.	gal.	.29½ @	—
Benzene, 90%	gal.	.15 @	.24
Beta-Trichlorethane	gal.	— @	—
Bondogen	lb.	— @	—
Carbon, bisulfide	lb.	.05½ @	.06
Carbon, tetrachloride	lb.	.05 @	.05¾
Dichlorethylene	lb.	.29 @	—
Dipentene, cml., drums	gal.	.41 @	.44
Dryolene (f.o.b. Okla.)	gal.	.10 @	.10½
Ethylene dichloride	lb.	.05½ @	.06½
Gasoline, steel bbls.	gal.	.16 @	—
Naphtha, solvent	gal.	.26 @	.31
Plastogen	lb.		
Reogen	lb.		
Rub-Sol (f.o.b. Okla.)	gal.	.09 @	—
Trichlorethylene	lb.	— @	.09½
Turpentine, spirits	gal.	.46½ @	.50½
dest. dist., drums	gal.	.45 @	.48
Waxes			
Beeswax, white	lb.	.40 @	.41
Carnauba, yellow	lb.	.39 @	.40
Ceresin, white, dom.	lb.	.08 @	.11
Montan, crude	lb.	.10 @	.11
Ozokerite, black	lb.	.24 @	.25
green	lb.	.26 @	.30
Paraffin (c.l.—f.o.b. N. Y.)			
Yellow crude scale	lb.	.02 @	.02½
White crude scale 124/126	lb.	.02 @	.02⅛
Refined, 125/127	lb.	.03¾ @	.04

ANTI-OXIDANTS

AgeRite, Gel	lb.		
HP	lb.		
Powder	lb.		
Resin	lb.		
White	lb.		
Albasan	lb.	.70 @	.75
Antox	lb.		
B-L-E	lb.	.57 @	.60
Flectol-H	lb.	— @	—
Flectol White	lb.	— @	—
Flectol B	lb.	— @	—
Neozone	lb.		
Oxynone	lb.	.66 @	.90
Retardex	lb.	.35 @	.40
Stabilite	lb.	.57 @	.62
Stabilite Alba	lb.	.70 @	.75
VGB	lb.	.55 @	.60

MOLD LUBRICANTS

Aresklene	lb.	— @	—
Cocoa Soapstock	lb.	.06 @	.08
Dipex	lb.	.06 @	.08
Rusco, f.o.b. Nitro	lb.	.12 @	.30
Sericite, f.o.b. N. Y.	ton	65.00 @	—
Soap Tree Bark, cut, sifted	lb.	.06 @	.08
Zip (Mold Wash)	lb.	— @	—

FACTICE OR RUBBER SUBSTITUTES

Amberex	lb.	.23 @	—
Black	lb.	.08½ @	—
White	lb.	.08 @	.12
Brown	lb.	.07 @	.11½
Duphax	lb.	.09½ @	—

VULCANIZING INGREDIENTS

Sulfur Chloride, yellow (drs.)	lb.	.03½ @	.04
Sulfur flour.			
Refined, 100% pure (bags)	cwt.	3.45 @	—
Commercial (bags)	cwt.	1.95 @	2.80
Telloy	lb.		
Vandex	lb.		

Crude Rubber
Latex and Guayule
Reclaimed Rubber
Tires and Tubes

STATISTICS OF THE INDUSTRY

Rim Production
Automobiles
Gasoline
Cotton Prices

U. S. Imports and Exports of Crude Rubber

YEARS	Gross Imports: Long Tons	Gross Imports: Total Declared Value	Gross Imports: Average Declared Value per pound Cents	Re-exports: Long Tons	Re-exports: Total Declared Value	Re-exports: Average Declared Value per pound Cents	Net Imports: Long Tons
1922	301,076	101,843,188	15.10	4,809	1,921,828	17.84	296,267
1923	309,144	185,060,304	26.72	8,772	5,672,319	28.87	300,372
1924	328,056	174,231,331	23.71	10,309	6,057,637	26.23	317,747
1925	396,642	429,705,014	48.36	14,827	19,847,753	59.76	381,815
1926	413,338	505,817,807	54.63	17,671	22,470,583	56.77	395,667
1927	426,258	339,874,774	35.60	27,775	24,735,488	39.76	398,483
1928	439,731	244,854,973	25.03	32,159	18,128,361	25.17	407,572
1929	560,084	239,178,783	19.15	36,485	16,868,733	20.64	523,599
1930	482,082	139,134,330	12.89	30,205	9,316,205	13.77	451,877
1931	497,138	72,918,949	6.54	25,595	4,255,472	7.42	471,543
1932	409,584	31,936,459	3.47	20,929	2,015,612	4.30	388,655
1933	407,817	44,034,064	4.82	20,537	2,601,352	5.65	427,280
1934	449,322	97,898,519	10.06	23,848	5,770,109	11.23	425,615
1933:							
June	22,900	1,780,495	3.47	1,276	156,168	5.46	21,624
July	44,625	4,293,111	4.29	1,419	219,945	6.92	43,206
August	44,257	5,391,709	5.44	2,205	302,132	6.12	42,052
Sept.	44,912	6,110,956	6.07	2,369	335,798	8.89	42,543
Oct.	44,474	6,115,330	6.14	2,669	397,167	6.64	41,805
Nov.	40,582	5,850,714	6.44	2,188	333,631	6.81	38,394
Dec.	39,461	5,869,556	6.75	1,888	293,690	6.94	37,573
1934:							
Jan.	47,963	7,403,123	6.89	1,975	352,116	7.96	45,988
Feb.	34,335	5,262,711	6.84	2,133	476,232	9.97	32,202
Mar.	41,119	6,765,173	7.34	2,947	583,313	8.83	38,172
April	43,841	8,232,746	8.37	2,814	588,453	9.18	41,027
May	48,494	10,001,239	9.21	2,389	544,212	10.17	46,105
June*	47,289	10,747,464	10.14	2,012	501,499	11.33	45,277
July	41,443	9,670,617	10.41	2,366	660,199	13.99	39,077
August	31,531	7,873,690	11.15	1,393	400,433	12.83	30,138
Sept.	31,074	8,293,859	11.92	1,665	474,446	12.72	29,409
Oct.	28,318	8,203,447	12.93	2,058	620,754	13.46	26,260
Nov.	36,325	10,470,076	12.87	1,230	327,672	11.89	35,095
Dec.	17,590	4,974,374	12.62	866	240,780	12.46	16,724
1935:							
Jan.	39,675	10,852,308	12.21	977	278,229	12.72	38,698
Feb.	47,271	12,291,242	11.61	1,845	480,440	11.62	45,426
March	45,350	11,801,152	11.62	1,868	486,379	11.62	43,482
April	39,735	10,096,487	11.34	1,096	285,903	11.64	38,639
May	29,278	7,171,025	10.98	793	202,402	11.39	28,485

* Revised.

United States Imports of Guayule, Balata, Jelutong, Liquid Latex

(All Quantities in Long Tons)

	Guayule: Tons	Guayule: Dollars	Balata: Tons	Balata: Dollars	Jelutong: Tons	Jelutong: Dollars	Liquid Latex (1): Tons	Liquid Latex (1): Dollars
1924	1,356	536,392	464	568,456	6,165	1,237,100	2,157	864,059
1925	3,781	1,803,448	517	574,750	6,749	1,642,531	3,853	3,537,810
1926	4,305	2,562,096	354	327,213	7,263	3,127,757	3,388	4,680,386
1927	5,018	2,674,957	582	447,246	7,785	2,448,657	1,116	876,077
1928	3,075	1,755,685	731	430,855	7,552	2,540,059	4,167	2,185,579
1929	1,231	545,175	728	566,964	8,203	2,458,136	3,728	1,787,997
1930	1,096	347,388	501	422,684	5,907	1,403,244	4,449	1,506,804
1931	—	—	1,208	411,692	5,777	1,019,010	4,650	884,355
1932	—	—	708	147,403	4,607	616,596	5,085	601,999
1933	—	—	1,658	2,261,869	5,989	944,895	11,085	1,833,671
1934	402	75,349	1,054	438,209	4,988	943,752	13,070	3,633,253
1934:								
June	51	9,422	84	49,881	388	71,672	1,458	421,317
July	—	—	160	63,963	482	87,412	1,231	385,733
August	100	18,607	100	36,732	516	85,651	1,169	369,335
Sept.	—	—	48	14,415	259	47,542	936	312,967
Oct.	—	—	14	2,797	278	48,287	922	282,503
Nov.	—	—	60	20,169	332	60,904	887	296,447
Dec.	—	—	6	2,458	192	31,947	581	184,588
1935:								
Jan.	—	—	81	34,687	448	80,097	848	287,583
Feb.	—	—	62	20,981	222	33,850	573	179,583
March	—	—	57	15,917	488	80,643	1,290	354,654
April	—	—	51	11,452	419	58,429	1,721	415,100
May	51	9,464	62	12,931	332	51,805	1,427	380,844

(1) Weight given in pounds of dry rubber contained in latex.

U. S. Consumption of Crude Rubber

(Rubber Manufacturers' Association statistics raised to 100 per cent—All figures in long tons)

(All Quantities in Long Tons)

	Figures on Monthly Basis: 1928	1929	1930	1931	1932	1933	1934	1935
Jan.	34,403	43,002	36,194	28,557	29,648	22,645*	39,284*	47,103
Feb.	33,702	41,594	33,302	28,797	31,821	21,392*	40,609	43,187
Mar.	35,688	44,730	35,540	32,788	29,505	17,483*	47,097	42,620
Apr.	32,772	47,521	39,686	33,321	27,518	25,928	44,853*	44,714
May	37,333	49,233	39,386	37,817	30,957	44,074	42,918*	41,568
June	37,676	43,227	34,195	37,916	41,475	50,743*	40,241	
July	37,407	41,526	29,508	31,397	29,976	49,614*	32,647	
Aug.	42,927	38,274	30,850	27,586	23,721	44,428*	33,310	
Sept.	39,882	34,707	25,515	23,638	23,847	35,281*	30,352	
Oct.	40,857	34,800	27,516	22,277	22,286	31,543*	31,347	
Nov.	37,461	27,659	23,691	22,943	23,231	28,831*	34,842	
Dec.	31,232	25,531	21,687	21,409	18,015	28,757*	36,662	
Tot.	441,340	469,804	375,980	348,986	332,000	400,719*	454,350*	

* Revised.

Reclaimed Rubber in the United States

(All Quantities in Long Tons)

Year	Production	Consumption: Tons	Consumption: % to Crude	Stocks*	Year	Production	Consumption: Tons	Consumption: % to Crude	Stocks*
1925	132,930	137,105	35.6	13,203	1930	157,967	153,497	40.8	22,000
1926	180,582	164,500	45.9	23,213	1931	133,351	124,126	33.9	19,257
1927	189,144	178,471	47.6	24,980	1932	75,608	77,504	23.4	16,354
1928	208,516	223,000	50.4	24,785	1933	99,560	81,602	19.9	20,746
1929	218,954	226,588	48.4	27,464	1934	110,010	100,597	22.3	23,079

	Figures on Monthly Basis: Production	Consumption: Tons	Consumption: % to Crude	Stocks*		Production	Consumption: Tons	Consumption: % to Crude	Stocks*
1934:									
Jan.	9,828	7,000	17.8*	24,263	July	9,446	8,175	25.0	24,926
Feb.	9,504	7,646	18.8	23,356	Aug.	8,160	8,493	25.5	24,607
Mar.	11,479	9,683	20.6	25,113	Sept.	6,974	7,028	23.2	24,540
Apr.	10,185	9,387	20.9	22,033	Oct.	8,145	8,167	26.1	24,511
May	10,848	9,500	22.1	22,887	Nov.	7,268	7,775	22.3	23,999
June	10,820	9,459	23.5	23,664	Dec.	7,353	8,284	22.6	23,079
1935:									
Jan.	10,465	11,261	23.9	22,291	July	.....	.....	...	.....
Feb.	10,072	9,374	23.3	22,989	Aug.	.....	.....	...	.....
Mar.	10,549	9,741	22.9	20,637	Sept.	.....	.....	...	.....
Apr.	10,315	10,466	23.4	18,716*	Oct.	.....	.....	...	.....
May	10,223	9,938	23.9	18,541	Nov.	.....	.....	...	.....
June	.....	.....	...	.....	Dec.	.....	.....	...	.....

* Stocks on hand at the end of month or year.
[a] Revised.

U. S. Consumption of Gasoline

(Bureau of Mines Statistics)

(In Thousands of Barrels of 42 Gallons)

	1933*	1934	1935		1932	1933*	1934
January	26,397	29,416	28,062	August	35,706	37,400	38,933
February	23,320	25,048	26,432	September	33,828	34,580	34,877
March	28,123	30,528	31,997	October	32,680	33,022	37,544
April	29,791	32,735	36,076	November	29,895	30,312	34,839
May	33,709	38,141	39,089	December	27,110	28,572	30,486
June	37,699	36,296					
July	34,087	37,393		Total	373,900	377,003*	406,267

* Revised on basis of final 1933 figures issued September 26, 1934 by Bureau of Mines.

Rims Inspected and Passed in U. S.

(Tire and Rim Association Reports)

	Total		Total		Total
1924	21,863,311	1928	24,247,282	1932	6,261,336
1925	26,001,664	1929	24,141,502	1933	8,713,962
1926	24,199,524	1930	17,364,096	1934	12,255,118
1927	19,700,003	1931	11,253,800	1935	.....

1935:		1935:		1934:	
January	1,868,723	May	1,561,434	September	526,472
February	1,616,398	June		October	629,878
March	1,724,077	July		November	577,713
April	1,907,032	August		December	1,199,240

Daily Spot Closing Prices of Ribbed Smoked Sheet Rubber—New York Market, in Cents per Pound

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Ave.
1933																																
March	21⅜	3	3⅛	*	3	3⅛	*	3⅛	*	*	3⅜	3⅜	2⅞	3	3⅛	3⅛	3⅜	3⅜	3⅜	3⅛	3⅛	3	3⅛	2⅞	2⅞	2⅞	2⅞	2⅞	2⅞	2⅞	2⅞	3
April	21⅜	3	2⅝	3	2⅞	3⅛	3⅛	3⅛	3⅛	3⅛	3⅜	3⅜	3⅛	3⅛	3⅛	3⅛	3⅜	3⅜	3⅜	3⅜	3⅜	3⅜	3⅜	3⅜	3⅜	3⅜	3⅜	3⅜	3⅜	3⅜	3⅜	3⅜
May	4⅜	4⅛	4⅛	4⅛	4⅛	4⅛	4⅛	4⅛	4⅛	4⅛	4⅛	4⅛	4⅛	4⅛	4⅛	4⅛	4⅛	4⅛	4⅛	4⅛	4⅛	4⅛	4⅛	4⅛	4⅛	4⅛	4⅛	4⅛	4⅛	4⅛	4⅛	4⅛
June	6⅜	6½	6⅛	6⅛	6⅛	6⅛	6⅛	6⅛	6⅛	6⅛	6⅛	6⅛	6⅛	6⅛	5⅝	5⅝	5⅝	5⅝	5⅝	5⅝	5⅝	5⅝	5⅝	5⅝	5⅝	5⅝	5⅝	5⅝	5⅝	5⅝	5⅝	5⅝
July	6½	6⅝	6⅛	6⅛	6⅛	6⅛	6⅛	6⅛	6⅛	6⅛	6⅛	6⅛	6⅛	6⅛	6⅛	6⅛	6⅛	6⅛	6⅛	6⅛	6⅛	6⅛	6⅛	6⅛	6⅛	6⅛	6⅛	6⅛	6⅛	6⅛	6⅛	6⅛
August	7⅝	7⅝	7⅝	7⅝	7⅝	7⅝	7⅝	7⅝	7⅝	7⅝	7⅝	7⅝	7⅝	7⅝	7⅝	7⅝	7⅝	7⅝	7⅝	7⅝	7⅝	7⅝	7⅝	7⅝	7⅝	7⅝	7⅝	7⅝	7⅝	7⅝	7⅝	7⅝
September	7⅝	7⅝	7⅝	7⅝	7⅝	7⅝	7⅝	7⅝	7⅝	7⅝	7⅝	7⅝	7⅝	7⅝	7⅝	7⅝	7⅝	7⅝	7⅝	7⅝	7⅝	7⅝	7⅝	7⅝	7⅝	7⅝	7⅝	7⅝	7⅝	7⅝	7⅝	7⅝
October	7⅝	7⅝	7⅝	7⅝	7⅝	7⅝	7⅝	7⅝	7⅝	7⅝	7⅝	7⅝	7⅝	7⅝	7⅝	7⅝	7⅝	7⅝	7⅝	7⅝	7⅝	7⅝	7⅝	7⅝	7⅝	7⅝	7⅝	7⅝	7⅝	7⅝	7⅝	7⅝
November	7⅛	7⅛	7⅛	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
December	9⅛	9⅛	9⅛	9⅛	9⅛	9⅛	9⅛	9⅛	9⅛	9⅛	9⅛	9⅛	9⅛	9⅛	9⅛	9⅛	9⅛	9⅛	9⅛	9⅛	9⅛	9⅛	9⅛	9⅛	9⅛	9⅛	9⅛	9⅛	9⅛	9⅛	9⅛	9⅛
1934																																
January	9	9⅛	8⅛	9	9	9	10⅛	8⅛	8⅛	8⅛	8⅛	8⅛	8⅛	10⅞	9⅞	9	8⅛	9⅛	9⅞	9⅛	9⅛	9⅛	9⅛	9⅛	9⅛	9⅛	9⅛	9⅛	9⅛	9⅛	9⅛	9⅛
February	9⅞	10⅛	9½	10⅛	10⅛	10⅛	10⅛	10⅛	10⅛	10⅛	10⅛	10⅛	10⅛	11⅛	10⅛	10⅛	10⅛	10⅛	10⅛	10⅛	10⅛	10⅛	10⅛	10⅛	10⅛	10⅛	10⅛	10⅛	10⅛	10⅛	10⅛	10⅛
March	10⅛	10½	10½	10⅛	10⅛	10⅛	10⅛	10⅛	10⅛	10⅛	11⅛	11⅛	11⅛	11⅛	11⅛	11⅛	11⅛	11⅛	11⅛	11⅛	11⅛	11⅛	11⅛	11⅛	11⅛	11⅛	11⅛	11⅛	11⅛	11⅛	11⅛	11⅛
April	11⅛	11⅜	11⅜	11⅛	11⅛	11⅛	11⅛	11⅛	11⅛	11⅛	11⅛	11⅛	11⅛	11⅛	11⅛	11⅛	11⅛	11⅛	11⅛	11⅛	11⅛	11⅛	11⅛	11⅛	11⅛	11⅛	11⅛	11⅛	11⅛	11⅛	11⅛	11⅛
May	14⅜	14⅜	14⅜	15	15⅛	15⅛	15⅛	15⅛	14	13⅞	13⅞	13⅞	13⅞	13⅞	13⅞	13⅞	13⅞	13⅞	13⅞	13⅞	13⅞	13⅞	13⅞	13⅞	13⅞	13⅞	13⅞	13⅞	13⅞	13⅞	13⅞	13⅞
June	13	13	13⅛	12⅝	13	13	13⅛	13⅛	13⅛	13⅛	13⅛	13⅛	13⅛	13⅛	13⅛	13⅛	13⅛	13⅛	13⅛	13⅛	13⅛	13⅛	13⅛	13⅛	13⅛	13⅛	13⅛	13⅛	13⅛	13⅛	13⅛	13⅛
July	14	14⅛	15	14⅝	15⅛	15⅛	15⅛	15⅛	15⅛	15⅛	15⅛	15⅛	15⅛	15⅛	15⅛	15⅛	15⅛	15⅛	15⅛	15⅛	15⅛	15⅛	15⅛	15⅛	15⅛	15⅛	15⅛	15⅛	15⅛	15⅛	15⅛	15⅛
August	14⅜	14⅜	14⅜	15	15⅛	15⅛	15⅛	15⅛	15⅛	15⅛	15⅛	15⅛	15⅛	15⅛	15⅛	15⅛	15⅛	15⅛	15⅛	15⅛	15⅛	15⅛	15⅛	15⅛	15⅛	15⅛	15⅛	15⅛	15⅛	15⅛	15⅛	15⅛
September	14⅜	14⅜	14⅜	15	15⅛	15⅛	15⅛	15⅛	15⅛	15⅛	15⅛	15⅛	15⅛	15⅛	15⅛	15⅛	15⅛	15⅛	15⅛	15⅛	15⅛	15⅛	15⅛	15⅛	15⅛	15⅛	15⅛	15⅛	15⅛	15⅛	15⅛	15⅛
October	14⅜	14⅜	13⅞	14	13⅞	13⅞	13⅞	14	13⅞	13⅞	14⅜	12⅞	13⅛	13⅛	13⅛	13⅛	14	14	13⅞	13⅞	13⅞	13⅞	13⅞	13⅞	13⅞	13⅞	13⅞	13⅞	13⅞	13⅞	13⅞	13⅞
November	14⅜	13⅜	13	13	13	13	13⅜	13⅛	13⅜	13⅜	12⅞	12⅛	12⅛	12⅛	12⅛	12⅛	12⅛	12⅛	12⅛	12⅛	12⅛	12⅛	12⅛	12⅛	12⅛	12⅛	12⅛	12⅛	12⅛	12⅛	13	13
December	13⅛		12⅞			13⅛																										
1935																																
January		13⅜	13½		13½		13⅜	13⅜	13⅝	13⅜	13⅜	13¼		13	12⅝	13⅛	13⅛	13⅛	13	13⅛	13	12⅛	12⅛	12⅛	12⅛	12⅛	12⅛	12⅛	12⅛	12⅛	12⅛	12⅛
February		12¾		12¾	12¾		12⅝	13⅛	12⅞		13⅛	12⅝		12¾	12⅝	12⅝	12⅝	12⅝	12⅝	12⅝	12⅝	12⅝	12⅝	12⅝	12⅝	12⅝	12⅝	12⅝	12⅝	12⅝	12⅝	12⅝
March		12⅝		12⅛	12⅛		12⅛	12⅛	12		12⅛	12⅛		12⅛	12⅛	12⅛	12⅛	12⅛	12⅛	12⅛	12⅛	12⅛	12⅛	12⅛	12⅛	12⅛	12⅛	12⅛	12⅛	12⅛	12⅛	12⅛
April		11⅝		11⅛	11		11	10⅞	11⅛		11⅛	11⅛		11⅛	11⅛	11⅛	11⅛	11⅛	11⅛	11⅛	11⅛	11⅛	11⅛	11⅛	11⅛	11⅛	11⅛	11⅛	11⅛	11⅛	11⅛	11⅛
May		11½		11½			11⅛	11⅛	11⅛		11⅛	11⅛		11⅛	11⅛	11⅛	11⅛	11⅛	11⅛	11⅛	11⅛	11⅛	11⅛	11⅛	11⅛	11⅛	11⅛	11⅛	11⅛	11⅛	11⅛	11⅛
June		12⅛		12⅛	12½		12⅛	12⅝			12⅝	12⅛		12⅛	12⅛	12⅛	12⅛	12⅛	12⅛	12⅛	12⅛	12⅛	12⅛	12⅛	12⅛	12⅛	12⅛	12⅛	12⅛	12⅛	12⅛	12⅛
July		12⅛		12¼	12⅝																											

Average Spot Closing Prices—Ribbed Smoked Sheets

(New York Market)

Average Price per Pound for Years 1910-1929

Year	Cents	Year	Cents	Year	Cents	Year	Cents	Year	Cents
1910	206.60	1914	65.33	1918	60.15	1922	17.50	1926	48.50
1911	141.30	1915	65.85	1919	48.70	1923	29.45	1927	37.72
1912	121.60	1916	72.50	1920	36.30	1924	26.20	1928	22.48
1913	82.04	1917	72.23	1921	16.36	1925	72.46	1929	20.55

Average Monthly Price per Pound Since 1928

	1929 Cents	1930 Cents	1931 Cents	1932 Cents	1933 Cents	1934 Cents	1935 Cents
Jan.	20.14	15.24	8.34	4.38	3.08	9.32	13.10
Feb.	23.7	15.85	7.70	4.03	2.95	10.45	12.92
Mar.	24.55	15.34	7.71	3.35	3.01	11.01	11.51
Apr.	21.18	14.93	6.43	3.02	3.56	12.10	11.55
May	21.46	14.24	6.49	3.09	4.95	13.26	12.05
June	20.64	12.45	6.35	2.66	6.15	13.51	12.57
July	21.30	11.24	6.37	2.89	8.01	14.60	
Aug.	20.59	9.96	5.38	3.63	7.31	15.47	
Sept.	20.37	8.28	5.08	3.84	7.30	15.36	
Oct.	19.67	8.20	4.87	3.65	7.64	13.96	
Nov.	16.62	9.01	4.65	3.44	8.66	13.04	
Dec.	16.12	9.05	4.64	3.24	8.87	12.98	
Average for Year	20.55	11.98	6.17	3.49	5.96	12.92	

London Closing Prices of Ribbed Smoked Sheets

(In Pence Per Pound)

Day	Apr.	May	June	July	Day	Apr.	May	June	July
1	5 1/16	5 3/16	5 1/16	5 1/16	17	5 1/16	6	6 3/16	
2	5 1/16	5 1/16	—	5 1/16	18	5 1/16	5 7/16	6 1/16	
3	5 1/16	5 1/2	5 1/16	5 7/16	19	—	—	6 1/16	
4	5 3/16	—	6	5 1/16	20	—	5 7/16	6	
5	5 3/16	—	6	5 1/16	21	—	5 3/16	6	
6	5 3/16	—	6	—	22	—	6	—	
7	—	5 1/16	6	—	23	5 1/16	6	—	
8	5 1/16	5 1/16	—	5 1/16	24	5 1/16	6	6	
9	5 1/16	5 3/16	—		25	5 1/16	6 1/16	6	
10	5 1/16	5 3/16	—		26	5 3/4	—	5 1/16	
11	5 3/16	5 1/16	6 1/16		27	5 3/4	6 1/16	5 1/16	
12	5 1/16	—	6 1/16		28	—	6	6	
13	5 3/16	5 3/16	6 1/16		29	5 3/16	5 1/16	—	
14	—	5 1/16	6 1/16		30	5 1/16	5 1/16	—	
15	5 3/4	5 1/16	6 1/16		31	—	5 1/16	—	
16	5 3/16	—	—						

Average Monthly Price Per Pound

Month	1932 Pence	1933 Pence	1934 Pence	1935 Pence	Month	1932 Pence	1933 Pence	1934 Pence	1935 Pence
Jan.	3.052	2.264	4.429	6.434	Aug.	2.654	3.811	7.401	
Feb.	2.760	2.093	4.920	6.292	Sept.	2.485	3.728	7.409	
Mar.	2.047	2.099	5.136	5.745	Oct.	2.425	3.957	6.806	
Apr.	1.876	2.323	5.712	5.604	Nov.	2.518	4.096	6.294	
May	1.825	2.966	6.207	5.822	Dec.	2.444	4.200	6.295	
June	1.750	3.392	6.245	6.027	Average for Year	2.434	3.233	6.159	
July	1.875	3.860	7.053						

Spot Closing Cotton Prices

(Middling Upland Grade—New York Market)

Recent Daily Price Per Pound

Date	May	June	July	Date	May	June	July	Date	May	June	July
1	12.15	11.55	12.15	11	12.35	11.90		21	12.40	11.85	
2	12.15	—	12.35	12	—	11.80		22	12.45	11.95	
3	12.25	11.50	12.45	13	12.25	11.80		23	12.35	—	
4	12.30	11.90	—	14	12.30	11.95		24	12.35	11.90	
5	—	11.80	12.20	15	12.35	12.00		25	12.40	11.90	
6	12.15	11.90	12.35	16	12.35	—		26	—	11.95	
7	12.15	11.80	—	17	12.50	11.95		27	12.30	12.00	
8	12.25	12.05	12.30	18	12.45	11.85		28	12.20	12.20	
9	12.40	—		19	—	11.85		29	11.90	12.15	
10	12.40	11.95		20	12.40	11.90		30	—	—	
								31	11.30	—	

Average Monthly Price Per Pound

	1932 Cents	1933 Cents	1934 Cents	1935 Cents		1932 Cents	1933 Cents	1934 Cents	1935 Cents
Jan.	6.65	6.23	11.25	12.70	Aug.	7.43	9.55	13.40	
Feb.	6.85	6.05	12.28	12.58	Sept.	6.30	9.64	13.00	
Mar.	6.86	6.39	12.30	11.63	Oct.	6.30	9.58	12.48	
Apr.	6.16	7.02	11.80	11.73	Nov.	6.22	10.04	12.53	
May	5.72	8.64	11.44	12.25	Dec.	6.00	10.17	12.76	
June	5.02	9.47	12.20	11.89	Average for Year	6.41	8.63	12.36	
July	5.87	10.76	12.84						

World Stocks of Crude Rubber

ON HAND OR AFLOAT TO THE U. S.

At End of	ON HAND 1933	ON HAND 1934	ON HAND 1935	AFLOAT 1933	AFLOAT 1934	AFLOAT 1935	ON HAND AND AFLOAT 1933	ON HAND AND AFLOAT 1934	ON HAND AND AFLOAT 1935
Jan.	396,376	368,660	346,084	32,539	45,768	42,066	428,915	414,428	388,150
Feb.	381,794	358,681*	339,335*	32,898	53,063	42,969	414,692	411,744*	382,304*
Mar.	390,135	352,897*	338,700	29,531	54,722	44,485	419,666	407,619*	383,185
Apr.	382,167	351,073*	334,954	30,745	56,251	37,651	412,912	407,324*	372,605
May	364,623	350,935*	319,281	43,342	57,921	44,375	407,965	409,250	363,656
June	333,954	358,149		63,608	46,698		397,562	404,847	
July	326,609	364,883		57,435	45,869		384,044	410,752	
Aug.	325,148	362,647		53,084	40,278		378,232	402,925	
Sept.	334,637	359,667		57,255	38,831		391,982	398,498	
Oct.	343,579	362,018		58,568	38,247		402,147	400,265	
Nov.	353,852	361,236		57,140	38,625		410,992	399,861	
Dec.	364,541	352,632		55,606	47,644		419,147	400,276	

(Rubber Manufacturers' Association figures raised to 100%)

* Revised.

STOCKS IN GREAT BRITAIN

Stocks in London

(No. of Tons in Wharves and Warehouses, including Latex)

At end of	1933	1934	1935	At end of	1933	1934	1935
Jan.	36,481	38,570	81,807	July	41,178	50,490	
Feb.	37,182	38,752	87,605	Aug.	39,480	48,953	
Mar.	40,689	40,501	92,664	Sept.	39,237	56,103	
Apr.	40,911	42,413	94,361	Oct.	37,101	63,079	
May	41,998	42,190	95,722	Nov.	36,139	67,656	
June	43,032	45,674		Dec.	35,615	72,285	

At End of Recent Weeks

	First Saturday	Second Saturday	Third Saturday	Fourth Saturday	Fifth Saturday
1935					
Feb.	82,160	83,622	85,202	87,222	
Mar.	88,097	89,388	91,153	91,298	92,602
Apr.	93,209	94,130	94,361	94,543	
May	95,138	95,454	96,097	96,962	
June	96,067	96,463	96,749	97,385	97,112

Stocks in Liverpool

1935					
Feb.	66,429	67,043	67,846	68,243	
Mar.	68,266	68,963	69,440	69,616	69,332
Apr.	70,151	70,057	70,886	70,729	
May	71,488	71,278	71,673	72,027	
June	71,839	72,605	73,338	73,569	73,257

STOCKS IN PENANG AND SINGAPORE

(Stocks held by Dealers—Quantities in Long Tons)

End of	1932	1933	1934	1935	End of	1932	1933	1934	1935
Jan.	48,850	22,525	40,405	50,588	July	17,017	36,972	65,099	
Feb.	46,954	21,530	41,884	51,628	Aug.	20,649	38,601	59,227	
Mar.	46,591	24,594	47,933	46,046	Sep.	20,415	36,948	54,905	
Apr.	39,663	25,460	48,431	43,295	Oct.	23,158	37,282	54,155	
May	38,690	29,822	76,393	45,625	Nov.	25,419	39,018	49,282	
June	19,770	34,676	73,218		Dec.	25,341	38,269	51,255	

STOCKS IN OTHER CENTRES

	Malaya Mainland	Holland	Colombo	Para and Manaos
End of: 1934				
Sept.	33,661	1,290	5,137	3,075
Oct.	31,762	1,401	5,675	3,113
Nov.	33,590	1,404	5,631	3,081
Dec.	23,173	1,326	5,732	3,293
Jan., 1935	33,609	1,397	5,926	3,477
Feb.	32,062	1,534	4,753	3,153
Mar.	31,844	1,551	3,917	3,214
Apr.	33,583	1,536	4,245	3,019
May	31,896			2,643

RUBBER STOCKS AFLOAT

	Afloat for United States	Afloat for Europe	All Other * Afloat	Total * Afloat
End of: 1934				
January	45,768	39,250	25,785	110,803
February	53,063	36,563	24,311	113,947
March	54,722	33,365	32,205	120,292
April	56,251	32,640	24,866	113,757
May	57,921	39,370	43,854	141,145
June	46,698	36,870	26,910	110,478
July	45,869	35,430	15,355	96,654
August	40,278	36,060	21,001	97,349
September	38,831	39,630	35,215	113,716
October	38,247	40,560	20,061	98,868
November	38,625	39,870	21,342	99,837
December	47,644	41,200	36,132	124,976
End of: 1935				
January	42,066	35,600	35,334	113,000
February	42,969	28,750	31,281	103,000
March	44,485	28,000	19,515	92,000
April	37,651	28,000	31,749	97,400
May	44,375	28,000	30,825	103,200

* *Total Afloat* is an arbitrary estimate based on 1½ months' shipments as adopted by the Department of Commerce. *All Other Afloat* is determined by subtracting the amount of stocks in transit to the United States and Europe from the estimated total.

P—Preliminary estimate.

U. S. Tire and Tube Statistics[1]

(All Figures Represent Thousands)

AUTOMOBILE CASINGS

Figures for Recent Years

	1927	1928	1929	1930	1931	1932	1933	1934
Production	64,439	77,944	68,726	50,965	48,739	40,085	45,304	47,233
Shipments	64,059	74,296	69,395	53,638	48,151	40,260	44,094	46,687
Inventory[2]	10,264	13,624	11,838	9,003	7,775	7,644	8,888	9,455

Figures for Recent Months

	PRODUCTION 1933	PRODUCTION 1934	PRODUCTION 1935	SHIPMENTS 1933	SHIPMENTS 1934	SHIPMENTS 1935	INVENTORY 1933	INVENTORY 1934	INVENTORY 1935
Jan.	2,258	3,922	4,626	2,597	3,222	3,663	7,237	9,684	10,398
Feb.	2,339	4,335	4,383	2,292	3,285	3,287	7,377	10,725	11,530
Mar.	2,038	5,180	4,346	2,092	4,223	4,204	7,290	11,651	11,675
Apr.	3,123	4,470	4,512	3,654	4,438	5,144	6,778	11,981	11,003
May	5,189	4,456		5,180	5,332		6,760	11,127	
June	6,100	4,342		6,305	5,228		6,615	10,219	
July	5,714	3,353		5,497	4,157		6,844	9,437	
Aug.	4,994	3,533		4,707	4,308		7,070	8,697	
Sept.	3,999	2,936		3,503	3,183		7,595	8,419	
Oct.	3,249	3,287		2,537	3,010		8,462	8,657	
Nov.	3,039	3,341		2,197	3,191		9,247	8,779	
Dec.	3,082	3,778		3,531	3,109		8,888	9,455	

AUTOMOBILE INNER TUBES

Figures for Recent Years

	1927	1928	1929	1930	1931	1932	1933	1934
Production	70,823	80,180	68,829	52,535	48,333	36,891	42,546	46,228
Shipments	72,896	77,127	70,592	54,938	50,021	37,911	41,391	45,046
Inventory[2]	13,692	16,117	12,807	9,999	7,922	6,749	7,815	9,180

Figures for Recent Months

	PRODUCTION 1933	PRODUCTION 1934	PRODUCTION 1935	SHIPMENTS 1933	SHIPMENTS 1934	SHIPMENTS 1935	INVENTORY 1933	INVENTORY 1934	INVENTORY 1935
Jan.	2,093	3,530	4,259	2,535	3,199	3,722	6,197	8,403	9,621
Feb.	2,224	4,077	4,171	2,102	3,323	3,362	6,357	8,445	10,466
Mar.	1,883	5,194	4,123	1,902	4,118	4,168	6,369	10,244	10,406
Apr.	2,853	4,735	4,259	3,051	4,342	4,453	6,189	10,585	10,170
May	5,189	4,359		5,180	4,902		6,760	10,043	
June	5,448	4,097		5,778	5,309		6,097	8,795	
July	5,603	3,531		5,211	4,323		6,440	8,053	
Aug.	4,916	3,680		4,687	4,198		6,628	7,555	
Sept.	3,827	3,110		3,472	3,024		7,008	7,639	
Oct.	3,506	3,219		2,676	2,689		7,831	8,151	
Nov.	2,863	3,169		2,103	2,767		8,625	8,503	
Dec.	2,631	3,503		3,410	2,850		7,815	9,180	

(1) Rubber Manufacturers' Association figures, raised to 100%. The Association estimates its figures to be 75% complete up until 1929 and 80% complete for 1929-1933. Beginning 1934, the Association reported its figures to be 97% complete.

(2) Held by manufacturers at end of period indicated.

Automobile Production

	United States Total	United States Passenger Cars	United States Trucks	Canada Total	Canada Passenger Cars	Canada Trucks	Grand Total
1928	4,357,384	3,826,613	530,771	242,382	196,737	45,645	4,599,944
1929	5,358,420	4,587,400	771,020	263,295	207,498	55,797	5,621,715
1930	3,355,986	2,814,452	540,534	154,192	125,442	28,750	3,510,178
1931	2,389,730	1,973,090	416,640	82,621	63,477	19,144	2,472,351
1932	1,370,678	1,135,493	235,187	60,816	50,718	10,098	1,431,494
1933*	1,920,057	1,573,512	346,545	65,924	53,855	12,069	1,992,126
1934	2,778,739	2,190,099	588,640	116,890	92,538	24,352	2,895,629
1934							
May*	331,652	273,765	57,887	20,161	16,504	3,657	351,813
June*	308,065	261,852	46,213	13,905	10,810	3,095	321,970
July*	266,576	223,868	42,708	11,114	8,407	2,707	277,690
August*	234,810	183,500	51,310	9,904	7,325	2,579	244,714
Sept.*	168,871	123,909	44,962	5,579	4,211	1,368	174,450
Oct.*	132,491	84,503	47,988	3,780	2,125	1,655	136,271
Nov.*	78,465	45,556	32,909	1,697	1,052	645	80,162
Dec.	183,187	128,059	55,128	2,732	2,334	398	185,919
1935							
Jan.*	292,817	229,233	63,584	10,607	8,269	2,338	303,424
Feb.*	335,699	275,623	60,076	18,114	13,885	4,229	353,813
March*	429,834	361,816	68,018	21,975	18,179	3,796	451,809
April*	477,746	401,628	76,118	24,121	20,686	3,435	501,867
May	364,721	307,522	57,199	20,765	17,093	3,672	385,486

* Revised.

Exports of Crude Rubber from Principal Producing Countries

(Long Tons)

	BRITISH MALAYA [1]							DUTCH EAST INDIES [2]						
	Gross Exports	Imports	Gross Exports Minus Imports	Ceylon [3]	India & Burma [3]	Sarawak [4]	British North Borneo [3]	Siam [4]	Java & Madura	Sumatra E. Coast	Other D.E.I.	Indo-China [3]	Amazon Valley	All Other [5]	World Total [7]
1923	252,816	70,432	181,584	39,971	6,416	5,705	4,237	1,718	32,930	46,344	57,822	5,067	16,765	7,856	406,415
1924	259,706	108,524	151,182	39,997	7,697	6,699	4,621	2,962	42,446	54,497	80,347	6,688	23,165	9,065	429,366
1925	316,825	158,022	158,803	49,566	10,082	5,424	5,377	5,377	46,757	65,499	120,626	7,881	25,298	13,797	514,487
1926	391,328	151,243	240,085	58,963	9,874	9,155	6,079	4,027	52,186	71,413	121,231	8,203	24,298	16,017	621,530
1927	371,322	182,845	188,477	55,356	11,321	10,923	6,582	5,472	55,297	77,815	142,171	8,645	28,782	15,633	606,474
1928	409,430	149,787	259,643	57,267	10,790	10,087	6,698	4,813	58,848	82,511	121,770	9,548	21,129	10,690	653,794
1929	574,836	163,092	411,744	81,584	11,663	11,077	7,381	5,018	65,990	87,789	134,037	9,696	21,148	6,767	853,894
1930	547,043	133,876	413,167	76,970	10,782	10,309	6,781	4,251	69,755	79,396	115,254	7,665	14,260	5,651	814,241
1931	519,740	125,506	394,234	61,769	8,470	10,451	6,247	4,218	75,952	87,747	116,009	11,696	12,121	3,292	792,203
1932	478,252	92,539	385,713	48,973	3,888	6,960	4,664	3,451	61,312	79,837	85,871	13,883	6,450	1,816	702,818
1933	573,412	167,377	406,035	63,351	4,527	10,874	7,555	7,765	73,851	91,861	149,659	18,394	9,883	2,737	846,312
1933:															
March	42,153	7,964	34,189	4,905	389	571	458	304	5,092	6,466	6,999	1,102	995	103	61,573
April	36,823	7,758	29,065	4,582	272	624	583	235	5,226	5,969	8,147	1,122	556	183	56,564
May	42,917	13,664	29,253	4,643	475	1,091	583	359	6,782	7,298	13,195	1,371	918	143	66,111
June	41,482	16,538	24,944	5,198	377	1,149	582	632	7,352	6,654	14,779	1,369	704	124	63,864
July	50,531	18,772	31,759	4,201	270	1,358	728	797	7,367	8,580	16,534	1,310	913	166	73,983
Aug.	52,436	17,869	34,567	5,839	246	955	728	926	6,460	7,985	15,161	808	1,116	323	75,114
Sept.	49,607	15,146	34,461	5,111	125	1,027	727	611	5,868	9,164	15,005	1,702	656	274	74,731
Oct.	61,002	17,390	43,612	5,674	271	959	750	979	6,329	8,682	15,170	1,426	965	314	85,131
Nov.	54,599	20,142	34,457	6,097	516	1,020	750	1,303	6,684	9,951	14,474	1,553	956	366	78,127
Dec.	57,579	18,110	39,469	7,435	964	989	750	1,046	7,030	10,183	17,274	3,779	930	302	90,151
1934:															
Jan.	55,055	16,128	38,927	6,929	1,531	1,197	805	1,290	6,513	7,975	13,913	1,109	576	127	80,892
Feb.	57,867	15,027	42,840	8,620	775	1,005	805	1,264	6,706	9,211	13,696	1,232	831	105	87,090
March	58,515	19,907	38,608	6,750	1,412	1,360	806	1,363	8,655	10,539	19,084	1,968	846	113	91,504
April	56,748	20,957	35,791	5,157	762	1,447	894	1,311	7,282	9,808	19,250	1,330	440	236	88,708
May	69,403	25,691	43,712	8,870	1,106	1,892	1,397	997	12,104	14,606	26,598	1,243	726	328	113,579
June	53,282	20,981	32,301	5,397	1,425	1,886	644	1,497	4,860	6,192	15,956	1,593	765	377	72,893
July	53,335	22,829	30,506	3,818	710	1,662	1,048	2,399	5,762	7,369	14,415	1,703	353	252	69,997
Aug.	52,641	17,865	34,776	4,948	552	1,714	1,048	1,908	5,340	8,901	11,356	1,610	710	251	73,114
Sept.	61,051	17,889	43,162	6,555	294	1,438	839	1,626	5,722	10,738	14,688	1,665	764	222	87,713
Oct.	47,045	10,226	36,819	6,544	413	1,412	1,196	1,328	5,970	6,643	5,556	1,413	840	401	68,535
Nov.	51,140	8,759	42,381	6,756	501	953	941	1,356	7,621	7,123	5,338	2,356	1,017	334	76,676
Dec.	59,575	15,375	44,200	8,481	990	1,237	680	2,043	10,865	12,953	12,354	2,956	1,035	239	98,033
1935															
Jan.	56,720	17,142	39,578	5,202	2,269	1,630	1,222	2,614	3,812	5,371	8,704	2,650	1,196	460	74,719
Feb.	50,593	17,676	32,917	5,556	731	1,887	760	2,288	4,395	7,663	15,194	2,076	636	254	74,154
Mar.	47,407	13,437	33,970	3,181	701	1,901	773	2,076	5,592	7,950	7,973	1,472	740	526	66,855
Apr.	53,360	16,029	37,331	3,749	370	1,895	846	1,661	5,574	6,873	12,683	2,827	963	300*	75,072
May	51,353	23,720	27,633	4,473	400*	2,323	848	2,752	6,217	7,931	21,058	2,138	832	300*	76,905

(1) Malayan net exports cannot be taken as production, since imported rubber is largely wet native rubber, which is reduced about one-third in weight by remilling; rubber exported as latex is not included which on a basis of 3½ pounds per gallon amounted to 115 tons in 1923, 1,117 in 1924, 3,618 in 1925, 3,263 in 1926, 2,439 in 1927, 1,437 in 1928, 2,670 in 1929, and 1,274 in 1930. (2) Ceylon Chamber of Commerce statistics until 1926; rubber exported as latex is not included—such shipments were equivalent to 18 tons in 1923, 93 tons in 1924, 6 tons in 1925, 20 tons in 1926, about ½ ton in 1927, and 1 ton in 1928, and practically none in 1929, 1930 and 1931. (3) Official statistics. (4) Imports into Singapore and Penang. (5) Exports from "Other D.E.I." are chiefly wet native rubber, which is reduced about one-third in weight by remilling; rubber exported as latex is not included which on a basis of 3½ pounds per gallon amounted to 2,342 tons in 1923, 1,008 tons in 1924, 2,239 tons in 1925, 44 tons in 1926, 84 tons in 1927, 1,459 tons in 1928, 1,302 tons in 1929, and 2,656 tons in 1930. (6) Calculated from official import statistics of principal consuming countries, viz., United States, United Kingdom, France, Germany, Belgium and Netherlands, and includes guayule rubber. (7) This total includes the third column for British Malaya, "Gross Exports minus Imports," and all the figures shown for the other territories. * Figure is provisional: final figure will be shown when available.

NOTE: THE FIGURES FOR 1933 ARE REVISED AS OF JANUARY 25, 1935 AND REPRESENT FINAL FIGURES

Net Imports of Crude Rubber into Principal Manufacturing Countries

(*Long Tons*)

	United States [1]	United Kingdom	France (h)	Germany	Canada (ac)	Japan (da)	Italy	Russia (ce)	Australia (cd)	Belgium (d)	Netherlands	Scandinavia (abcdf)	Spain (g)	Czechoslovakia (abcd)	World Total
1919	238,407	42,671	17,685	5,584	6,395	9,753	9,894	75	1,002	3,995	2,771	3,149	2,418	9	343,808
1920	249,530	56,844	13,885	11,890	11,746	5,297	6,123	62	1,815	3,840	5,510	2,292	2,008	567	371,409
1921	179,736	42,087	15,135	21,920	8,124	21,713	3,906	165	1,014	1,705	1,022	1,279	2,245	569	300,620
1922	296,594	11,724	24,352	27,546	9,207	15,934	6,430	2,493	2,643	172	—3,807	1,778	589	567	396,222
1923	301,527	12,700	27,392	18,519	13,277	15,372	8,489	2,986	1,649	2,184	792	2,528	630	1,128	409,173
1924	319,103	—11,550	30,446	22,727	14,299	19,571	8,764	2,346	3,124	2,688	—807	3,178	944	1,370	416,203
1925	385,596	4,061	32,956	33,937	19,683	11,117	11,412	7,088	4,757	2,930	875	3,149	1,155	1,558	520,274
1926	399,981	84,865	34,240	22,775	20,229	18,125	9,809	6,529	9,021	2,498	2,670	4,046	1,299	1,870	617,957
1927	403,472	60,249	34,271	38,892	26,405	20,521	11,381	12,018	9,490	6,482	636	4,224	2,055	2,672	632,768
1928	407,572	4,846	36,49b	37,855	30,447	25,621	12,433	15,134	8,430	7,958	2,243	4,418	3,178	3,138	599,771
1929	528,608	122,675	55,093	49,275	35,453	34,284	17,169	11,774	15,886	9,445	3,022	6,440	864	4,650	894,638
1930	458,036	120,069	68,503	45,488	28,793	33,039	18,639	16,387	5,354	10,635	2,92•	7,710	2,400	4,468	822,445
1931	475,993	86,170	46,466	39,688	25,261	43,483	10,149	30,671	7,649	11,009	2,220	6,360	2,605	7,717	794,641
1932	393,844	44,086	42,506	45,121	20,917	56,027	14,469	30,637	12,576	9,519	2,851	7,262	4,359	9,444	693,618
1933	398,365	73,335	61,953	54,120	19,332	66,831	19,341	29,830	13,534	11,166	1,245	7,831	5,520	10,402	.....
1933:															
Sept.	43,886	4,341	4,111	5,841	2,620	5,369	2,055	2,168	794	864	189	604	790	577	74,211
Oct.	43,366	3,373	4,921	4,772	2,580	6,150	1,836	2,084	604	1,118	310	777	441	686	73,081
Nov.	39,633	3,955	5,419	4,086	2,184	6,296	942	4,483	301	1,129	222	878	493	882	70,903
Dec.	38,864	6,524	5,415	4,933	1,773	6,865	1,029	2,400	190	1,360	213	703	776	1,772	72,817
1934:															
Jan.	47,114	9,503	6,472	6,057	1,721	5,628	2,517	2,749	566	2,173	381	1,185	484	1,355	88,276
Feb.	33,087	10,785	5,301	5,490	1,854	4,570	2,388	3,399	950	1,538	287	464	656	516	73,357
Mar.	39,306	14,008	4,980	6,453	3,411	5,655	1,394	4,018	671	965	284	836	394	976	86,242
Apr.	42,262	9,999	3,210	6,701	2,419	5,679	1,966	1,326	415	504	262	1,217	752	465	77,177
May	47,412	9,786	3,634	6,499	2,218	6,905	2,218	4,360	769	214	322	940	147	1,768	87,192
June	46,785	16,564	3,803	6,171	2,208	6,745	1,887	3,145	1,512	837	331	843	1,146	1,624	93,601
July	40,308	12,266	4,051	5,494	2,430	5,739	708	1,640	732	810	540	1,602	747	1,094	78,161
Aug.	31,405	13,728	3,660	3,078	1,948	4,945	1,795	6,829	658	669	239	1,033	277	1,495	71,759
Sept.	30,345	11,254	4,244	2,607	2,770	7,346	1,486	4,487	743	501	339	980	465	477	68,044
Oct.	27,323	18,897	3,424	2,148	3,043	7,227	1,296	3,681	798	693	447	813	675	254	70,719
Nov.	35,982	15,875	3,176	3,425	1,568	5,580	1,764	4,488	516	379	187	1,382	542	215	75,079
Dec.	17,305	15,816	3,605	5,207	2,849	3,904	1,979	6,460	1,312	—168	139	1,143	615	762	60,928
1935															
Jan.	39,546	20,383	5,573	4,286	2,670	4,400	1,613	3,446	1,099	419	158	1,252	468	1,245	86,558
Feb.	45,999	15,609	4,593	3,513	1,558	5,582	4,356	1,810	848	399	477	838	567	1,836	87,985
Mar.	44,772	12,810	4,017	6,353	2,710	4,421	1,582	4,624	1,459	240	331	891	630	741	85,581
Apr.	40,061	11,574	3,306	5,820	1,063	6,635	2,000*	3,387	1,150	520	329	1,049	432	789	78,115
May	29,962	12,498			3,929				671		272				

a—Including gutta percha. b—Including balata. c—Re-exports not deducted in monthly statistics. d—Including some scrap and reclaimed rubber. e—Official statistics of rubber imports by Soviet Russia. f—Including Norway, Sweden, Denmark and Finland. g—United Kingdom and French exports to Spain except in years prior to 1925. h—French imports have been reduced 12 per cent in order to eliminate imports of gutta percha and to reduce to basis of net weight. [1] United States imports of guayule are included in this compilation. * Figure is provisional; final figure will be shown immediately it becomes available.

A Section Devoted to Listings of Leading Producers and Distributors of Raw Materials, Machinery and Equipment, and Supplies for the Rubber Industry.

The Market Place

Chemicals and Compounding Materials — Machinery and Equipment—Crude, Reclaimed and Scrap Rubber—Fabrics—Rubber Products — Consulting Engineers.

Chemicals and Compounding Materials

ACCELERATORS—
Ureka C—Ureka Blend B—Ureka.—A-1, A-7, A-11, A-16, A-19, A-32, Z-88, A-510, DPG
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The Columbia Alkali Corporation
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the world's standard gas black, universally known as the "King of Rubber Pigments."
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IN this section are listed the products of the leading producers of materials and equipment used by rubber manufacturers.

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For Rubber	For Industry Generally	
Accelerators	*Acids*	*Latex*
Antioxidants	*Oil of Myrbane*	*Lotol*
Specialties	*Aniline Oil*	*Dispersions*

The Naugatuck Chemical Co.
1790 BROADWAY NEW YORK

CHEMICALS and compounding ingredients; Clay, Accelerators, Mineral Rubber.
R. T. Vanderbilt Co.
230 Park Ave. New York City

CHEMICALS and Mineral Ingredients—Whiting, Clay, Talc, Barytes, Colors. Heavy Calcined Magnesia. Carbonate of Magnesia, Pumice Stone.
Standard Since 1890
Whittaker, Clark & Daniels, Inc.
260 West Broadway New York

COLLOIDAL SULPHUR
COLLOIDAL ZINC OXIDE
COLLOIDAL COLORS
Heveatex Corporation
78 Goodyear Ave., Melrose, Mass.
Offices in New York, Akron, Chicago

COLORS—*for Rubber*
Fine organic colors—Reds, Blues, Oranges, Violets, Greens—or any shade to meet your requirements—also Rubber Dispersed Colors
Ansbacher-Siegle Corporation
Rosebank, Staten Island, N. Y.
320 So. Clinton St., Chicago, Ill.
Agents in Principal Cities

COLORS
BRILLIANT ORGANIC DYES; PERMANENT, NON-BLEEDING, LOW COST
For All Cures
The RUBBER SERVICE LABORATORIES CO.
1012 Second National Building
Akron, Ohio